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THE IMPACT OF THE COVID-19 PANDEMIC ON SOCIAL CAPITAL

by

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THE IMPACT OF THE COVID-19 PANDEMIC ON SOCIAL CAPITAL

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Dedication

For my source of strength, my family, for their boundless support and their unwavering belief in me. This work is dedicated to each of you as it would not have been completed without the love and support that you have given to me.

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ABSTRACT

THE IMPACT OF THE COVID-19 PANDEMIC ON SOCIAL CAPITAL

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The COVID-19 pandemic has had a profound impact on all aspects of society, including social relationships and connections. In this study, I investigated the impact that the COVID-19 pandemic had on social capital. Using a quantitative approach, I measured various dimensions of social capital, focusing on social trust, social networks, and civic connections before, during, and after the pandemic to explore the changes caused by the pandemic on social capital. After careful analysis of 119 responses using SPSS, I found that social trust results in unique patterns with strong bonding within familiar circles like family, neighbors, and government's institutions, while a low level of trust was evident regarding diverse groups. In terms of social networks, family relationships thrived during the pandemic, and new friendships emerged, showing a strong indicator of bonding and bridging social capital. However, a decrease was observed in deeper friendships during and after the pandemic. Nevertheless, participants expressed satisfaction with their means of contacting others during the pandemic and 80% of participants were willing to

continue using the same mode of communication in the post-pandemic era. Amidst the upheaval, civic engagement displayed a slight increase, particularly in ethnic associations, religious-affiliated groups, seniors, and youth groups. However, the pandemic circumstances led to a general reduction in participation in civil society organizations. This study provides a comprehensive understanding of how the COVID-19 pandemic impacted various dimensions of social capital. The findings of this study have important implications for policymakers, community leaders, and individuals as we navigate the challenges of the pandemic and work to build stronger, more resilient communities in the post-pandemic world.

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CHAPTER I:
INTRODUCTION

Context of the Problem

The COVID-19 pandemic has significantly impacted societies, disrupting the way we live and interact with one another. The pandemic has resulted in the implementation of social distancing measures, widespread use of virtual communication technologies, and varied community responses. All of these factors have the potential to affect social capital, which refers to the networks, norms, and trust within a society that facilitate cooperation and coordination (Stone, 2001). However, the literature on how the COVID-19 pandemic has influenced social capital, particularly regarding whether certain groups have been disproportionately affected, is very limited. This study aims to examine the impact of the COVID-19 pandemic on social capital within communities; in particular, how social distancing measures, virtual communication technologies, and community responses to the pandemic have affected social trust, civic participation, and social networks.

Purpose of the Study

This research aimed to measure social capital during the COVID-19 pandemic that began in March 2020. This coincided with the World Health Organization (WHO) officially declaring the COVID-19 a pandemic, promoting countries to implement measures to ensure public safety such as monitoring social distancing and promoting the use of online technology for education and work. Many of these measures remained in effect until mid-2022. This study sought to explore whether this new way of living had an impact on social capital, leading to the following research questions:

- i. What was the state of social capital during the pandemic? Did it rise or fall? Were there any variations in social capital levels among different groups (e.g., by community, age, gender, socioeconomic status)?
- ii. What factors influenced social capital during the COVID-19 pandemic, including social distancing measures, virtual communication technologies, and community responses to the pandemic?

To answer these questions, I examined the following hypotheses:

- H1. Social distancing measures applied during the COVID-19 pandemic had a negative impact on bonding and bridging social capital.
- H2. The use of virtual communication technologies had a positive impact on maintaining and strengthening both bonding and bridging social capital.
- H3. The effect of the COVID-19 pandemic on social capital differs by different social groups (e.g., by country, age, gender, and socioeconomic status).

By examining these hypotheses and answering these questions outlined above, this study contributes to the existing literature on social capital during the COVID-19 pandemic by providing more comprehensive data about how social capital has been affected by the COVID-19 pandemic. The findings of the study also have practical implications for policymakers and practitioners seeking to understand and address the impacts of the COVID-19 pandemic on social capital. For example, the study may inform strategies for building social capital in communities affected by the pandemic and may help to identify groups that are particularly at risk of experiencing declines in social capital. Additionally, the study provides a foundation for future research on social capital in other crisis situations with potential applications for strengthening social capital during crises to protect communities from negative outcomes.

Theoretical Foundation of the Study

The framework of this study is based on social capital theory as defined by the work of sociologists such as Colman, Putnam, and Bourdieu.

Coleman's Perspective on Social Capital

James S. Coleman, in his book *Foundations of Social Theory* (1990), defines social capital as the networks of social relationships that facilitate the individual's action. Coleman summarizes three forms of relations that constitute social capital:

1-Obligations and expectations: Trustworthiness is the key to establishing social capital. The elements of obligation and expectation work as a credit slip in relationships. If A provides something to B and A trusts B to do something in return, then it represents expectation from A's side and obligation from B's side. The more "credit slips" gained by A, then the stronger the social capital obtained. The main element in this form of relationship is trustworthiness.

2-Information potential: The information potential is the supposed capability to gain information via relationships. This means that A can obtain information through someone with whom they are in a relationship. This means that A is using this relationship as a source of information.

3-Norms and effective sanctions: Norms and effective sanctions can be a powerful form of social capital, as noted by Coleman (1990, p. 300-321). Effective norms can create a safe environment that encourages individuals to act in the interests of the collective and build networks. For example, social norms such as wedding parties and celebrations can provide a means of social capital. However, norms can be internalized or supported through external sanctions, and effective norms can facilitate and constrain certain actions. For instance, a community with strong norms about young people's behavior may prevent them from engaging in inappropriate activities, but these same

norms may also reduce innovativeness in the community (Coleman, 1988, p. 104). Also, social norms in some societies may prohibit a woman from interacting with her male boss, making career advancement and higher income inaccessible to her. This demonstrates how prohibitive social norms can constrain individuals from pursuing opportunities that are important to them.

Putnam's Distinction: Bonding and Bridging Social Capital

Putnam (1995) differentiates between two forms of social capital; bonding social capital, which connects people with similar characteristics, and bridging social capital, which connects people with different characteristics. These forms of social capital, bonding and bridging, can have different effects on individuals, as bonding social capital is more likely to provide access to resources and information within the same group while bridging social capital is more likely to provide access to resources and information across different groups.

From Putnam's perspective, social capital can take different forms, such as trust, civic participation, social networks, and shared norms and values. One key aspect of social capital is the role of social trust (Putnam, 1995), which refers to the belief that people can be trusted and that individuals can rely on others for support and cooperation. Another important aspect of social capital is civic participation (Putnam, 1995) which refers to the active engagement of individuals in community activities and organizations. Civic participation can take many forms, such as volunteering, voting, and joining clubs or organizations.

Bourdieu's Concept of Social Capital

Pierre Bourdieu, in his book *The Forms of Capital* (1986), argued that social capital, similar to other forms of capital, can be accumulated, invested, and exchanged. From the perspective of Bourdieu, social capital refers to the resources individuals and

groups can access and mobilize through their social connections and networks. This can include access to information, resources, and opportunities, as well as the ability to influence others and gain support. Social capital is one of the connected forms of capital, such as economic capital (money and property), cultural capital (education and knowledge), and symbolic capital (prestige and honor) (Bourdieu, 1986, p. 247). From Bourdieu's perspective, social capital can be produced differently based on social class, gender, age, and race and can be used to maintain and reproduce social inequality.

Converging Perspective on Social Capital

From these three perspectives, we can say that social capital represents resources that can be gained through social networks and can be used to facilitate social action. It takes different forms, such as trust, civic participation, and social networks. It is also connected with social norms and can be produced and utilized differently based on an individual's positionality within multiple social categories and social networks. For example, a white, wealthy, heterosexual man may have access to a different type of social capital than a low-income, Black, queer woman.

CHAPTER II: REVIEW OF LITERATURE

Very few studies exist regarding measuring social capital during the pandemic. However, I found the following relevant studies.

Social Capital and the COVID-19 Pandemic Threat: The Russian Experience

In their 2022 study, Tatarko et al. (2022) explored social capital in Russia, specifically examining the link between individuals' perception of the coronavirus threat and various indicators of social capital, including general social trust, institutional trust, and the quality of social relationships. The study introduced two competing hypotheses regarding the effect of the perceived coronavirus threat on social capital. The first hypothesis suggested a negative association, anticipating that heightened threat perception would diminish social capital. Conversely, the second hypothesis proposed a positive association, suggesting that greater threat perception would enhance social relationships. The data for this study were collected from 500 respondents in different regions of Russia. The analysis of data revealed that the actual relationship between the perceived coronavirus threat and social capital is more complex than initially hypothesized. The study identifies a general process of social disintegration, where individuals reported increased closeness and trust within their families and towards their states' institutions (strong ties). Simultaneously, they distanced themselves from other social categories, such as neighbors and local residents (weak ties). These results suggest that the impact of the COVID-19 pandemic on social relations may have led to increased social distancing.

These results may be interpreted through the lens of Granovetter's theory on the strength of weak ties, as outlined in his seminal work from 1973. Granovetter emphasizes the essential role of weak ties, which act as bridges in social networks. According to

Granovetter (1973), weak ties create shorter and more numerous paths within a social network; the removal of an average weak tie can disrupt transmission probabilities to a greater extent than the removal of an average strong tie. Additionally, weak ties are considered crucial for individuals' access to opportunities and their integration into communities. He argued that strong ties foster local cohesion, which may inadvertently lead to overall fragmentation within the broader social context (Granovetter, 1973), a perspective that resonates with the results of Tatarko et al.'s study.

The 2022 Toronto Social Capital Study

The Toronto Social Capital Study 2022, conducted by Parkin, A., & Ayer, S. (2022) in partnership with the Toronto Foundation and other community organizations, took place over two years after the start of the pandemic. Its main aim was to assess the impact of the COVID-19 pandemic on social capital among residents in Toronto, Canada. The study involved a comparative analysis between the current situation and results from the identical study conducted in 2018. The findings revealed the clear impact of the COVID-19 pandemic on social capital, indicating that a larger proportion of city residents during the pandemic reported having fewer close relatives and friends compared to 2018. Notably, one in 12 respondents reported having no close family member or close friends they can rely on during the pandemic. Additionally, a reduction in participation in various organizations has been observed, particularly in sports and recreation, cultural organizations, and union and professional associations. The most significant decrease in group participation was observed among older residents and women. Moreover, a slight decrease in volunteering and donations was indicated, representing 12 percentage point decline from 2018. A general decline in social trust was observed compared to the findings in 2018. This decline was observed across various demographic groups especially among those with higher incomes, university degrees, and individuals

identified as white. While confidence in institutions such as neighborhood centers and local businesses has generally remained unchanged, confidence in the police has notably declined, particularly among Black residents. Lastly, the sense of belonging to the local community has also experienced a decrease, possibly indicating a broader shift in how individuals perceive and connect with their immediate surroundings.

Overall, the Toronto (2022) study suggests that the COVID-19 pandemic has had a multifaceted impact on social capital in Toronto community. The disruptions brought about by restrictions on social interactions and changes in community engagement, have influenced the composition and functioning of social networks, as well as trust levels and collective activities.

Social Capital: OECD's 'COVID-19 and Well-being' Report (2021)

The Organization for Economic Co-operation and Development (OECD) published a report in 2021 that examines the consequences of the COVID-19 pandemic on the well-being of OECD member countries during the first 15 months after the onset of the pandemic. Chapter 10 of the report explores the emerging evidence on three key aspects of social capital within OECD countries: volunteering, trust in others, and trust in institutions.

The report indicates a decline in formal volunteering, with only 17% of individuals reporting engagement in formal volunteering in 2020, compared to 20% in 2019. However, the report also notes that informal support between individuals remained robust throughout the pandemic. Trust in others showed different patterns. For instance, in Germany, trust levels significantly increased during 2020 and 2021 compared to pre-pandemic years. In contrast, interpersonal trust increased in New Zealand in June 2020 but subsequently returned to its 2018 baseline by September 2021. Nevertheless, a concerning trend emerged across 12 OECD member countries, where a majority of adults

perceived their countries as more divided than before the COVID-19 outbreak. In most OECD countries, institutional trust reached its highest levels in 2020 since records began in 2006. This trend continued to rise until the end of the year. However, signs of waning institutional trust began to emerge by early 2021.

Overall, the COVID-19 pandemic has introduced dynamic shifts in social capital within OECD countries, impacting formal volunteering, trust in others and institutions, and perceptions of societal cohesion. This is reflected also in both the Tatarko et al. (2022) study and the 2022 Toronto study, which together underscore the evolving nature of social capital in the wake of the pandemic.

The Current Study

This current study contributes to the existing literature on social capital during the COVID-19 pandemic by providing a focused examination of how factors such as social distancing measures and virtual communication technologies have impacted social trust, civic participation, and social networks within communities. Additionally, this research extends the current knowledge base by incorporating statistical analysis of specific demographic groups (e.g., by community, age, gender, socioeconomic status) to identify potential disparities in social capital outcomes. Furthermore, this study aims to expand the available data by examining additional communities, thereby broadening our understanding of the complex interplay between the COVID-19 phenomena and social capital dynamics.

CHAPTER III:
METHODOLOGY

Sampling and Participants

For participant selection, a snowball sampling method was employed. A cross-sectional survey was designed using Qualtrics and distributed through various digital platforms, including Twitter, Telegram, WhatsApp, and Facebook, as well as email. In total, 244 responses were received, all of which were submitted online.

Data Cleaning and Sample Selection

Out of the 244 responses, 119 were included in the statistical analysis. This selection was made based on the criteria of having no more than one missing data point in their responses, ensuring data quality and consistency.

Measurement

Social capital was assessed using a survey questionnaire adapted from by Parkin, A., & Ayer, S. (2022). Their measurement encompassed primary and secondary dimensions. I chose to adapt the primary index, as it aligns with the conceptual framework of this study.

The primary dimensions consisted of three proxies of social capital. First, social trust, which included variables like general trust, group trust, institutional confidence, and a sense of belonging. Second, social networks, covering family connections, close friend connections, other friend connections, types and frequencies of friend/family connections, and satisfaction levels with the frequency of these connections. Third, civic connections, which included variables such as organizational involvement, charitable contributions, and political engagement.

The questionnaire employed a combination of multiple-choice, Likert scale, and open-ended questions to assess trust, civic participation, social networks, and

demographic information, following the methodology described by Parkin, A., & Ayer, S. (2022). Questions was modified to assess social capital before, during and after the pandemic.

The questionnaire included additional questions to measure the other dynamic variables of the study, including virtual communication technologies, community response to the pandemic, and social distancing measures that were implemented during the pandemic.

To measure virtual communication technologies, participants were asked to report the extent to which they have been using various digital tools and platforms (e.g., Zoom, Facebook, WhatsApp, etc.) to communicate and connect with others remotely. A question regarding the quantity and quality of new connections was also included.

To measure community response, participants were asked about their perceptions of how their community had responded to the COVID-19 pandemic. This involved actions and measures taken by local community organizations, leaders, and individuals in response to the pandemic.

To measure social distancing strategies, participants were asked about their adherence to social distancing guidelines, including questions such as "How often do you avoid large gatherings?"

Finally, the survey questionnaire collected demographic information, including city of residency, ethnicity, age, gender, income, and education level, to provide a comprehensive profile of the participants.

Data Analysis

All analysis and statistics were conducted using SPSS software to formulate these statistics:

Descriptive Statistics

Frequencies were calculated for the primary variables of social capital: social trust, social networks, and civic connection, in addition to the other dynamic variables of the study including virtual communication, social distancing measures, and community response to COVID-19. This analysis aimed to provide a foundational understanding of how respondents' perceptions and behaviors were distributed across these variables. The frequency tables not only showcased the number of responses but also the proportions, allowing for a clear visualization of the data's distribution for further comparative analysis.

Additionally, mean values for each variable were calculated. Mean values provided valuable insights into the central tendencies of each variable to understand the average description of these variables.

Inferential Statistics

The Kruskal-Wallis Test was employed to identify differences in social capital dimensions across various demographic variables such as socioeconomic group, age, gender, country of residency, work status during the pandemic, and duration of participant's residence the same place. The Kruskal-Wallis Test is a non-parametric statistical analysis designed for assessing significant differences among three or more independent groups, particularly when the data does not adhere to a normal distribution. Given the study's focus on multiple demographic groups and multiple social capital dimensions, it is likely that the data exhibits variability that may not conform to a normal distribution. The Kruskal-Wallis Test is particularly well-suited for this analysis as it

allowed us to determine if there are meaningful variations between groups without making assumptions about the normal distribution of the data.

Multivariate Regression Analysis

Multivariate regression analysis was employed to identify factors associated with changes in social capital during the pandemic. The dependent variable, in this case, is a composite score calculated as the mean (average) of the three social capital indicators: trust in others, civic participation, and social networks. This composite score served as a representative measure of overall social capital.

Derivation of the Social Capital Composite Score

The social capital composite score was derived by calculating the average of three social capital components: social trust, social networks, and civic connection. Each component was assessed by computing an average score based on specific sub-indicators as described below.

Social Trust Average

To evaluate social trust, an average score was computed by summing the individual scores for General Trust (Q17 to Q21), Group Trust (Q22 to Q30), Institutional Confidence (Q31 to Q33), and Sense of Belonging (Q34), followed by division by four.

Formula: (General Trust Score + Group Trust Score + Institutional Confidence Score + Sense of Belonging Score) / 4

Social Networks Average

The evaluation of social networks involved calculating an average score by aggregating scores for Family Connection (Q35 A to E), Close Friend Connection (Q36 A to E), Other Friend Connection (Q37 A to C), Type/Frequency of Connection (Q38 A

to H), and Satisfaction with Frequency of Connection (Q41, Q42, Q43), and then dividing by five.

Formula: (Family Connection Score + Close Friend Connection Score + Other Friend Connection Score + Type/Frequency of Connection Score + Satisfaction with Frequency of Connection Score) / 5

Civic Connection Average

Civic connection was assessed by determining an average score based on Organization Involvement (Q44, Q45, Q46 A to C, Q47 A to E), Giving Back (Q49, Q50), and Political Engagement scores (Q51, Q52), with the result divided by three.

Formula: (Organization Involvement Score + Giving Back Score + Political Engagement Score) / 3

These three average scores, representing social trust, social networks, and civic connection, were subsequently used to compute an aggregated percentage for overall social capital.

Calculation of Composite Score

To derive a holistic measure of overall social capital, the following formula was employed:

Composite Score = (Social Trust Average + Social Networks Average + Civic Connection Average) / 3

Table 3.1 below provides a summary of the descriptive statistics for each of the social capital indicators scores and the composite score of social capital:

Table 3.1

	N	Minimum	Maximum	Mean	Std. Deviation
Social Networks Average	47	2.00	24.00	7.5319	5.67639
Social Trust Average	119	1.89	4.47	3.3985	.53740
Civic Connection Average	115	1.25	5.00	3.0369	.87766
Social Capital Composite Score	45	2.62	10.50	4.7645	2.06693

Independent Variables

The independent variables considered in this analysis include social distancing measurements, assessed in items D, E, F, G, and H from question 53; virtual communication technologies, assessed in questions 39, 40, 43, 44, and 45; and community responses to the pandemic, assessed in items A, B, and C from question 53. These variables were chosen based on their potential impact on social capital during the pandemic. Table 3.2 below provides a summary of the descriptive statistics for each of independent variables:

Table 3.2

	N	Mean	Std. Deviation
Social capital	45	4.7645	2.06693
Virtual Communication	119	8.7888	1.87585
Community Response	109	21.3853	4.10940
Social Distancing Measurement	111	12.6937	2.50016
Valid N (listwise)	42		

CHAPTER IV:

RESULTS

Participant's Characteristics

The participants in this study had a diverse range of ages, spanning from under 18 to over 65. The largest groups fell within the 25-34 and 35-44 age brackets, making up 47.1% and 22.7% of the sample, respectively.

The study had a relatively balanced representation of gender, with a slight majority of female participants, comprising 54.6% of the sample. The male participants constituted 42.9%, while a small percentage identified as other genders, accounting for 1.7% of the sample.

The study included participants from various countries, with the majority coming from Saudi Arabia (68.9%), the United States of America (11.8%), and Egypt (11.8%). Several other countries, including Malaysia, Albania, Australia, Gabon, Kuwait, United Arab Emirates, Russian Federation, and Brazil, contributed to the diverse representation of the sample.

As residency duration in the city during the pandemic can be an influential factor in this study, participants were asked about the length of their residency in the city they lived in during the pandemic. The majority of participants (47.5%) reported that they had spent their entire lives in the city, a significant portion (20.3%) had been residents for 10 years or more, while (10%) reported living for 1 to less than 3 years, (9.2%) reported 5 to 10 years and (7.6%) reported 3 to less than 5 years.

Participants had varying levels of education, with the most common being bachelor's degree holders (42%). Others included high school graduates (14.3%), master's degree holders (14.3%), and those with doctorate degrees (14.3%). A small percentage

(1.7%) reported having completed some high school but not graduated, indicating a generally well-educated participant group.

Economically, the participants in the sample were quite diverse. Participants reported different annual income levels for 2021, with the largest group (46.2%) earning between \$30,000 to \$59,999. Additionally, (16%) reported annual incomes between \$60,000 to \$79,999, and (12.6%) earned \$80,000 to \$99,999. Some participants (13.4%) reported incomes under \$30,000, while 1.7% had no income during the pandemic. In terms of housing, the majority (63.9%) lived in dwellings owned by their family or household members, while (36.1%) were renting their residences.

Participants reported diverse work situations during the pandemic, including working from home (24.4%), working from home some days but not every day (21.8%), and continuing to work from their usual workplace outside the home (17.6%). A summary of participant's work situation during the pandemic can be found in Figure 1.

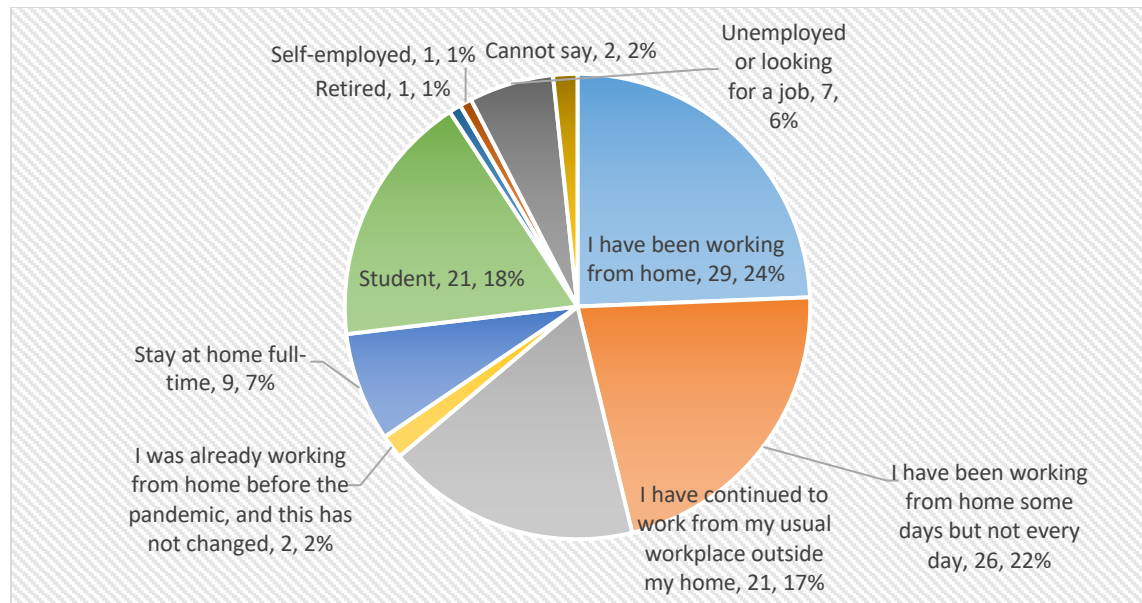


Figure 4.1

Participant's work status during the pandemic

The reported frequency of Covid-19 testing, for both participants and their close associates, varied widely, reflecting diverse experiences with the pandemic. About (52.9%) of participants reported having received between 1 and 5 positive test results while a significant portion of participants (26.9%) indicated that they had never received a positive test result. Regarding household members, (49.6%) of participants reported that their household member had received between 1 to 5 positive test results, and (18.5%) had no household members with positive test results. Finally, (36.1%) reported that their close friends and other family members had tested positive between 6 and 10 times, while (8.4%) had none of their close associates test positive.

Community Response to the Pandemic

In response to the pandemic, the majority of participants adhered to social distancing measures (74%), maintained distance from non-household members, avoided touching their faces in public spaces (70 %) and kept wearing masks when going outside

(82%). Participants also expressed overall approval for community efforts and government policies:

- High approval for community efforts, with agreement that the community made significant efforts to slow the spread of COVID-19 (77%).
- Strong support within the community for those affected by the pandemic (74%).
- Recognition of community advocacy for marginalized communities (72%).
- A perceived strong sense of unity and cooperation within the community during the pandemic (78%).
- Strong approval of government policies to control the pandemic (75%), with 52.9% strongly agreeing.

Social Capital Status

One of the primary inquiries in this research is to measure social capital during the Covid-19 pandemic. The following section presents social capital levels derived from the analysis findings.

1. Social Trust

The study found that participants generally demonstrated a good level of social trust, with a mean score of 3.39. This suggests a moderate to strong degree of trust in various social entities. Specifically, when people were asked who can be trusted to return their missed or lost items, 88% expressed trust in their neighbors, 83% in the police, and 58% even reported some trust in strangers. Table 4.1 below demonstrates the average mean levels of the social trust components.

Table 4.1*Social trust*

Variable	N	Minimum	Maximum	Mean	Std. Deviation
General Trust_average	118	1.00	4.00	3.0847	.60221
Group Trust_average	119	1.76	4.00	2.6636	.46087
Institutional Trust_average	119	1.00	5.00	3.6089	.96350
Sense of Belonging	119	1	5	4.23	1.182
Social Trust Average	119	1.89	4.47	3.3985	.53740

1.2 Group Trust

Within specific groups, participants exhibited a very strong level of trust in family (M = 4.7) and a strong level of trust in neighbors (M = 3.39). Moreover, 71% believed that individuals in their vicinity were willing to offer help, 60% perceived their community as closely-knit, and 60% considered their neighbors to provide a safe environment for children to play in. However, when it came to trusting groups from different backgrounds, the level of trust was considerably lower (M = 2.49 or less). Specifically, only 20% of participants expressed trust in people who speak different languages, and 18% said that they can trust people of different ethnic backgrounds. Furthermore, a mere 12% of participants reported being able to trust individuals with different political views, while almost 55% expressed a lack of trust in strangers. Table 4.2 illustrates the mean levels of trust that participants had in different groups.

Table 4.2*Group trust*

How much did you trust each of the following groups of people during the pandemic?		People in your family	People you work with or go to school with	People who speak a different language than you	Strangers	People whose ethnic background is very different from yours	People whose political views are different from yours	People with different religious beliefs than yours
N	Valid	118	116	116	113	114	110	88
	Missing	1	3	3	6	5	9	31
Mean		4.7119	3.3966	2.4914	1.8673	2.4035	2.2273	2.3864
Std. Deviation		0.62841	1.20057	1.37364	1.25715	1.34177	1.23896	1.3513

1.2 Institutional Trust

Overall, the mean score for institutional trust was 3.45, indicating a good level of trust in institutions. However, trust in these institutions varied significantly (see Table 4.3). For instance, participants showed a strong majority agreement in trusting formal agencies, with 82% trusting the police (M=4.38), and 77% trusting the justice system (M=4.2). However, trust in local agencies such as local businesses (M=3.0), local media (M=2.9), city hall (M=3.36), and social media (M=2.67) was notably lower. Non-profit charities (M=3.9), the school system (M=3.7) and religious centers (M=3.9) received trust from 55%, 60% and 67%, of participants respectively.

During the pandemic , how much confidence did you have in		The police	The justice system and courts	The school system	Local merchants and business people	Local media	Social media	City Hall	Your local City Councilor	Neighborhood centers serving your local community	Charities or not-for-profit organizations serving your local community	Religion center (church, masjid, temple, etc.)
N	Valid	117	116	118	118	118	117	115	113	115	113	117
	Missing	2	3	1	1	1	2	4	6	4	6	2
Mean		4.38	4.2069	3.7034	3.0169	2.940	2.6752	3.36	3.0265	3.4174	3.6903	3.9145
Std. Deviation		1.06	1.2337	1.3480	1.3773	1.537	1.4009	1.51	1.46665	1.48668	1.42101	1.40549
		549	1	6	7	52	2	212				

Table 4.3

Institutional trust

1.3 Sense of Belonging

During the pandemic, a substantial majority of participants (84%) reported a strong sense of belonging to their communities. This indicates a resilient sense of connection despite the challenges posed by the pandemic. Participants were asked to describe their sense of belonging to their community during the pandemic, Table 4.4 below provides a detailed breakdown of their answers.

Table 4.4

Sense of belonging

How would you describe your sense of belonging to your local community during the pandemic? -Would you say it is					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very weak	8	6.7	6.7	6.7
	Cannot say	7	5.9	5.9	12.6
	Somewhat weak	3	2.5	2.5	15.1
	Somewhat strong	33	27.7	27.7	42.9
	Very strong	68	57.1	57.1	100.0
	Total	119	100.0	100.0	

Additionally, 86.6% of participants believed that their government's policies to control the pandemic were effective, demonstrating a high level of confidence in the measures implemented during the pandemic.

2. Social Networks

2.1 Family Communication

Participants' communication with relatives remained relatively stable before, during, and after the pandemic. The majority of participants maintained close connections with 11-20 of their relatives during the pandemic. Notably, participants reported that 6-10 relatives became even closer during this period. Table 4.5 provides a general overview of the changes in family connections in the three periods: before during and after the pandemic.

Table 4.5

Family connections

		How many relatives do you have whom you felt close to before the pandemic?	How many of these relatives were live in the same city or local community as you during the pandemic?	How many of these relatives were you able to keep close communication with during the pandemic?	How many relatives became closer during the pandemic?	How many relatives do you have whom you feel close to currently?
N	Valid	115	109	114	111	108
	Missing	4	10	5	8	11
Mean		3.6174	3.4312	3.5439	3.1892	3.4815
Std. Deviation		1.22534	1.31492	1.16087	1.26141	1.15590

However, a slight decline in the number of close relatives was observed before and after the pandemic. For example, 24% of participants claimed to have more than 20 close relatives after the pandemic, compared to 32% before the pandemic and 25% during the pandemic (see Table 4.6).

Table 4.6*Family connection*

How many relatives do you have whom you feel close to		Before	During	After
Valid	0	3.4	1.7	.8
	Between 1-5	18.5	21.8	21.8
	6-10	21.8	20.2	25.2
	11-20	21.0	26.9	18.5
	More than 20	31.9	25.2	24.4
	Total	96.6	95.8	90.8
Missing	System	3.4	4.2	9.2
Total		100.0	100.0	100.0

2.2 Close Friends' Connections

In contrast to family connections, close friend connections experienced a notable decrease during the pandemic. Most participants reported maintaining connections with less than 10 close friends during the pandemic. After the pandemic, there was a decline in close friend connections compared to the pre-pandemic and pandemic periods. For instance, 2.5% of participants reported having zero close friends after the pandemic, whereas no one reported having zero friends before the pandemic. Additionally, 38% reported having fewer than 5 close friends after the pandemic, compared to 30% before the pandemic. Table 4.7 illustrates frequencies of responses regarding the number of close friends that participants had before, during, and after the pandemic.

Table 4.7*Close friends' connections*

How many close friends do you have		Before	During	After
Valid	0	0	2.5	2.5
	Between 1-5	30.3	35.3	37.8
	6-10	26.9	25.2	21.0
	11-20	16.8	18.5	14.3
	More than 20	17.6	14.3	18.5
	Total	91.6	95.8	94.1
Missing	System	8.4	4.2	5.9
Total		100.0	100.0	100.0

2.3 Other Friends' Connections

Conversely, when considering acquaintances or friends who may not necessarily be considered 'close,' a contrasting pattern emerged. A substantial 51% of participants reported forming new friendships during the pandemic (see table 4.8) resulting in a higher mean of new acquaintances post pandemic compared to the pre-pandemic period (see table 4.9). These findings suggest that while existing close friend connections experienced a decline, participants demonstrated a notable capacity for generating new social connections after the pandemic.

Table 4.8

Other friends' connections during the pandemic

Were you able to make new friends (even if not very close) during the pandemic?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	61	51.3	52.1	52.1
	No	56	47.1	47.9	100.0
	Total	117	98.3	100.0	
Missing	System	2	1.7		
Total		119	100.0		

Table 4.9

Other friends' connections pre- and post- pandemic

How many other friends (not necessarily close) do you have	Before	After
Mean	3.3396	3.9492
Std. Deviation	1.19433	1.18064

2.4 Communication Mode Preferences

During the pandemic, virtual communication emerged as the more commonly used mode of interaction compared to in-person communication, although it is important to note that both forms were relatively low in frequency. Participants expressed an overall

satisfaction level regarding the frequency of their communication with others during the pandemic (M=4.12). Furthermore, they reported a high degree of satisfaction with the new connections they established (M=3.91) and expressed a strong willingness to continue relying on virtual communication as a substitute for in-person interactions (M=3.99). Table 4.10 illustrates the communication mode in several activities during the pandemic.

Table 4.10

Communication mode preferences during the pandemic

During the pandemic, how often did you participate in these activities	Virtually		In Person	
	Mean	Std. Deviation	Mean	Std. Deviation
Weddings	2.4386	1.67990	2.2717	1.42276
Funerals	2.1818	1.56455	2.1205	1.32883
Religious activities	2.6333	1.65669	2.5696	1.7518
Clubs/Coffee shops	2.3725	1.74311	2.5946	1.48894
Family gatherings	3.1711	1.67641	3.1979	1.4039
Social events such as a conference or a symposium, or any type of professional gathering	2.8857	1.60202	2.473	1.53697
Education class or business meeting	3.5765	1.45059	2.907	1.50002
A concert or any art or entertainment event	2.4630	1.65647	2.1831	1.59741

3. Civic Connections

In general, civic connections during the pandemic was assessed as weak (M = 3.0). This indicates a lower level of civic engagement during pandemic times (see table 4.11). The following is a detailed explanation for the weak civic participation based on three components: political engagement, giving back, and organizational involvement.

Table 4.11*Civic connection*

	N	Minimum	Maximum	Mean	Std. Deviation
Civic Connection average	115	1.25	5.00	3.0369	.87766
Valid N	115				

3.1 Political Engagement

Prior to the pandemic, political engagement was reported as rare ($M = 3.2$). Interestingly, there was a slight increase in interest in politics during the pandemic, with participants reporting a mean score of 3.4 (see Table 4.12). Despite the slight increase in interest in politics during the pandemic, political engagement still remains weak overall.

Table 4.12*Political engagement*

	Generally speaking, how interested are you in politics (e.g., international, national, provincial, or municipal)?	During the pandemic, how interested were you in politics (e.g., international, national, provincial, or municipal)?
N	Valid 111 Missing 8	Valid 112 Missing 7
Mean	3.20	3.40
Std. Deviation	1.457	1.423

3.2 Giving Back

Regarding volunteer work, a significant proportion of participants (65%) stated that they did not engage in unpaid volunteer work during the pandemic. However, 61% reported donating either money or goods. This trend reflects the challenging circumstances of the pandemic, where individuals faced increased lockdowns limiting access to traditional volunteer settings, and concerns about health and safety. Additionally, many chose to support causes through monetary or material contributions, recognizing their impactful potential in times of economic challenges.

3.3 Access to Services and Facilities

Participants reported varying levels of access to essential services and facilities during the pandemic. Specifically, 78% reported being able to access family doctors, and 53% reported that they could occasionally visit outdoor parks during the times of the pandemic. Unfortunately, access to services such as community centers, theaters or art galleries, gyms or fitness centers, public libraries, children's daycares or after-school programs, as well as mental health services, was limited for most participants. Table 4.13 below shows the mean levels of access to different services during the pandemic.

Table 4.13

Access to services and facilities

Access to Services and Facilities. During the pandemic		A public library	Childcare, or before-school, or after-school care for your child or children	Mental health or counseling services	A gym, fitness center or recreational center	An outdoor park	A theatre, concert hall, art gallery, or a cultural or arts center	A community center
N	Valid	114	109	111	114	112	111	109
	Missing	5	10	8	5	7	8	10
	Mean	2.40	1.90	1.94	2.57	3.45	2.10	2.24
	Std. Deviation	1.561	.769	.717	1.546	1.394	1.328	1.465

3.4 Organizational Involvement

In terms of organizational involvement, there was a noticeable shift after the pandemic. As shown in Table 4.14 below, certain organizations experienced an increase in participation. For instance, involvement in unions or professional associations increased from 8.4 % before the pandemic to 10.1% after. Similarly, participation in seniors' groups saw an increase from 2.5% to 3.4%. In addition, service clubs such as Rotary experienced a substantial rise, increasing from 7.6% to 10.9% after the pandemic. Cultural, educational or hobby organizations also experienced a growth, going from 13.4% to 14.3%.

Table 4.14*Organizational involvement*

		Before / Percent	During / Percent	After / Percent
Valid	A sports or recreational organization	17.6	16.0	16.0
Missing	System	82.4	84.0	84.0
Total		100.0	100.0	100.0
Valid	A cultural, educational, or hobby organization	13.4	13.4	14.3
Missing	System	86.6	86.6	85.7
Total		100.0	100.0	100.0
Valid	A religious-affiliated group (such as a church group or choir, but not a church, synagogue, mosque etc.)	8.4	6.7	8.4
Missing	System	91.6	93.3	91.6
Total		100.0	100.0	100.0
Valid	A union or a professional association	8.4	7.6	10.1
Missing	System	91.6	92.4	89.9
Total		100.0	100.0	100.0
Valid	A senior's group	2.5	.8	3.4
Missing	System	97.5	99.2	96.6
Total		100.0	100.0	100.0
Valid	A youth organization	3.4	2.5	1.7
Missing	System	96.6	97.5	98.3
Total		100.0	100.0	100.0
Valid	A political party or group	5.9	6.7	2.5
Missing	System	94.1	93.3	97.5
Total		100.0	100.0	100.0
Valid	An immigrant or ethnic association or club	7.6	3.4	4.2
Missing	System	92.4	96.6	95.8
Total		100.0	100.0	100.0
Valid	A service club (such as Rotary or the Legion)	7.6	9.2	10.9
Missing	System	92.4	90.8	89.1
Total		100.0	100.0	100.0
Valid	Any other type of organization that has not been mentioned (name it)	3.4	4.2	1.7
Missing	System	96.6	95.8	98.3
Total		100.0	100.0	100.0
Valid	Nothing/do not belong to any	53.8	52.9	52.1

Missing	System	46.2	47.1	47.9
Total		100.0	100.0	100.0

Hypothesis Testing

To examine my two first hypotheses (H1: Social distancing measures applied during the COVID-19 pandemic had a negative impact on bonding and bridging social capital; and H2: The use of virtual communication technologies had a positive impact on maintaining and strengthening both bonding and bridging social capital), I employed regression analysis. This allowed me to explore the potential influence of social distancing measures and virtual communication on social capital. Below is the model summary.

Table 4.15

R-square value

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.186 ^a	.035	-.042	1.98237
a. Predictors: (Constant), social_distancing_measurement, virtual_communication, Community_response				

The regression model produced an R-square value of 0.035, indicating that only 3.5% of the variance in social capital score can be explained by the independent variables: virtual communication, social distancing measurements, and community response to the pandemic (see Table 4.15).

Table 4.16*ANOVA test results*

ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	5.361	3	1.787	.455	.715 ^b
	Residual	149.332	38	3.930		
	Total	154.693	41			
a. Dependent Variable: Social_capital						
b. Predictors: (Constant), social_distancing_measurement, virtual_communication, Community_response						

In addition, the ANOVA test showed that the regression model was not statistically significant ($p = 0.715$), suggesting that the independent variables, did not significantly contribute to the variation in social capital (see Table 4.16).

Additionally, none of the independent variables were found to be statistically significant predictors of social capital. The coefficients listed in Table 4.17 for the independent variables were not statistically significant: Virtual communication ($p = 0.273$), community response ($p = 0.634$), and social distancing measurement ($p = 0.852$) (see Table 4.17).

Table 4.17*Regression Coefficients for Predicting Social Capital with the Predictor Variables*

Coefficients ^a						
Model		Unstandardized		Standardized	T	Sig.
		Coefficients		Coefficients		
		B	Std. Error	Beta		
1	(Constant)	2.124	2.443		.869	.390
	virtual_communcation	.212	.191	.180	1.112	.273
	Community_response	.044	.093	.099	.480	.634
	social_distancing_measurement	-.027	.143	-.039	-.188	.852

a. Dependent Variable: Social_capital

While Table 4.18 demonstrates a moderate positive correlation between social distancing measurement and community response ($r = 0.513$, $p < 0.001$), it is important to note that this relationship is not associated with social capital. Nevertheless, the significant positive correlation between community response and social distancing measurement suggests that communities that responded effectively to the pandemic also tended to have better adherence to social distancing measures.

Table 4.18*Correlations between Social Capital and the Predictor Variables*

Correlations					
		Social_capital	virtual_communication	Community_response	social_distancing_measurement
Social_capital	Pearson Correlation	1	.188	.057	-.123
	Sig. (2-tailed)		.217	.719	.432
	N	45	45	42	43
virtual_communication	Pearson Correlation	.188	1	-.009	-.004
	Sig. (2-tailed)	.217		.930	.964
	N	45	119	109	111
Community_response	Pearson Correlation	.057	-.009	1	.513**
	Sig. (2-tailed)	.719	.930		.000
	N	42	109	109	109
social_distancing_measurement	Pearson Correlation	-.123	-.004	.513**	1
	Sig. (2-tailed)	.432	.964	.000	
	N	43	111	109	111

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

Consequently, the statistical analysis does not support H1, suggesting that social distancing measures did not have a statistically significant negative impact on bonding and bridging social capital.

Similarly, the statistical results did not provide statistical support for the second hypothesis (H2), which proposed that the use of virtual communication technologies

would have a positive impact on maintaining and strengthening both types of social capital. Therefore, it can be concluded that the statistical analysis neither proved nor disproved H2.

To examine the final hypothesis (H3), which suggests that the impact of the COVID-19 pandemic on social capital varies across different social groups (e.g., by country, age, gender, and socioeconomic status), I conducted the Kruskal-Wallis test. This test was employed to assess the impact of the COVID-19 pandemic on the three key indicators of social capital: trust in society, engagement in social networks, and civic activities. The assessment was performed separately across various demographic and situational categories, including, age, type of residence, duration of residence, annual income, education level, work situation, country of residence and gender.

The results of the Kruskal-Wallis tests revealed no statistically significant differences in social capital indicators across demographic and situational categories ($p > 0.05$), except for gender (see Table 4.19). This means that Hypothesis 3 is partially supported, as significant gender-based differences in most social capital indicators were observed during the pandemic, with males exhibiting higher levels (see Table 4.22). Particularly, notable gender differences were observed in social trust ($P= 0.004$) and civic participation ($P= 0.000$) (see Table 4.19).

Table 4.19*Test Statistics for Gender-Based Analysis of Social Capital Indicators*

Test Statistics ^{a,b}			
	Social trust	Social networks	Civic connections
Chi-Square	11.214	.939	16.357
Df	2	1	2
Asymp. Sig.	.004	.333	.000
a. Kruskal Wallis Test			
b. Grouping Variable: What is your gender?			

Upon closer examination of the social trust component, notable gender differences emerged in group trust ($p= 0.004$) and institutional trust ($p= 0.030$) (see Table 4.20). Trust within specific groups varies significantly based on gender, with males tending to exhibit higher levels of trust in different groups (see Table 4.22). Additionally, in term of institutional trust, being a male is associated with higher level of trust in institutions (see Table 4.22).

Table 4.20*Test Statistics for Gender-Based Analysis of Social Trust Components*

Test Statistics ^{a,b}				
	General_trust_aver age	Group_trust_aver age	Institutional_trust_av erage	Sense of belonging
Chi-Square	1.899	11.154	7.034	2.777
Df	2	2	2	2
Asymp. Sig.	.387	.004	.030	.249
a. Kruskal Wallis Test				
b. Grouping Variable: What is your gender?				

On the other hand, when examining civic connections component, we can see that there are significant differences in organizational involvement ($p= 0.020$) and political engagement ($p= 0.007$) between gender groups (see Table 4.21). Males experienced more interest in politics during the pandemic and participated more in civic organizations (see Table 4.22).

Table 4.21

Test Statistics for Gender-Based Analysis of Civic Connections Components

Test Statistics^{a,b}			
	Giving_Back	Organization_involvement	Political_Engagement
Chi-Square	2.004	7.843	9.972
Df	2	2	2
Asymp. Sig.	.367	.020	.007
a. Kruskal Wallis Test			
b. Grouping Variable: What is your gender?			

Table 4.22 below provides detailed information on the distribution of ranks across different social capital indices and sub-indices for each gender group, demonstrating the levels of social capital components in male and female groups.

Table 4.22*Distribution of Ranks for Social Capital Indices and Sub-Indices by Gender Groups*

Ranks			
What is your gender?		N	Mean Rank
Trust_society_whole_average	Male	50	70.89
	Female	65	49.82
	Other	2	60.00
	Total		
		117	
Social_networks_during_the_pandemic	Male	24	22.10
	Female	23	25.98
	Total	47	
Civic_average	Male	47	72.26
	Female	65	46.71
	Other	2	61.50
	Total	114	
General_trust_average	Male	50	61.01
	Female	65	58.40
	Other	2	28.25
	Total	117	
Group_trust_average	Male	51	70.00
	Female	65	50.31
	Other	2	90.50

	Total	118	
Institutional_trust_average	Male	51	68.63
	Female	65	51.97
	Other	2	71.50
	Total	118	
Sense of belonging	Male	51	62.83
	Female	65	56.12
	Other	2	84.50
	Total	118	
Giving_Back	Male	47	62.43
	Female	65	53.91
	Other	2	58.50
	Total	114	
Organization_involvement	Male	47	67.79
	Female	65	50.49
	Other	2	43.50
	Total	114	
Political_Engagement	Male	45	66.39
	Female	65	48.72
	Other	2	87.00
	Total	112	

CHAPTER V: DISCUSSION AND CONCLUSION

This study aimed to investigate the impact of the COVID-19 pandemic on social capital by measuring social trust, social networks and civic connections during this period. An adapted questionnaire was employed to assess participants' perceptions of the three social capital indicators. Additionally, questions were included to explore changes in social capital before and after the pandemic. This chapter presents the findings obtained from the data analysis of this study.

Social Capital Levels During the Pandemic

The findings revealed that participants exhibited a moderate to strong level of social trust, particularly within their families, with neighbors, and towards the police. This suggests that individuals had confidence in their immediate social circles during the pandemic. However, trust in individuals from different backgrounds, such as those with distinct languages, ethnicities, or political views, was notably lower. This indicates that while trust was maintained within familiar circles, there may have been an increase in polarization or mistrust towards those perceived as different. These findings align with the 2022 OECD study (2022), which reported that many respondents in OECD countries felt their societies became more divided since the onset of COVID-19.

The stability in family trust was complemented by continuous family communication throughout the pandemic, emphasizing the enduring nature of familial bonds. Conversely, there was a noticeable decline in close friend connections during the pandemic, underscoring the challenges posed by the pandemic in maintaining social ties outside the immediate family circle. These observations are consistent with Tatarko et al., (2022) which indicated that individuals reported increased closeness and trust within their families (strong ties) but distanced themselves from other social categories like other

friends and fellow residents (weak ties), identifying a general process of social fragmentation. This observation can be interpreted in the context of Granovetter's theory of *The Strength of Weak Ties* (1973). Granovetter (1973) argued that weak ties are more likely to bridge the gap between members of different small groups, whereas strong ties tend to be concentrated within specific groups. In the context of this study's findings, this implies that the strengthening of strong ties and weakening of weak ties during the pandemic may have led to a fragmentation of social networks, potentially contributing to polarization.

These findings emphasize the importance of maintaining both strong and weak ties for resilient social capital. The observed decline in trust towards individuals from different backgrounds underlines the critical need for interventions that actively promote intercultural and intergroup cohesion.

Institutional Trust

Participants generally exhibited a good level of trust in formal agencies, such as the police, government agencies, and the justice system. However, trust in local institutions, including local businesses, local media, city hall, and social media, was notably lower. This indicated that while participants trusted formal institutions, they may have been more skeptical of local institutions.

Positive experiences and interactions with formal institutions during the pandemic had the potential to amplify this confidence. For example, government websites were the primary and most trusted source of information during the pandemic (Ali et al., 2020). This reliance on formal institutions as a source of information and updates during the pandemic likely contributed to increase the trust participants had in them. Similar to effective communication, the role that governments had in supporting residents may have led to higher levels of trust in formal governance. Effective crisis management and the

actions taken by formal institutions, such as implementing public health measures, providing financial support, or coordinating relief efforts, could significantly influence public trust. As observed by Kritzinger et al. (2021), “people who believed the government's actions in managing the pandemic were appropriate had higher levels of trust in the government” (p.1219). Participants of this study generally approved governments policies to control the pandemic, which may explain the high level of trust in formal institutions.

Sense of Belonging

A majority of participants reported a strong sense of belonging to their communities during the pandemic. This sense of belonging remained resilient despite the challenges posed by the pandemic. This is a significant finding, indicating the potential for collective strength and support even in times of adversity.

Eatough (2021) found empirical evidence that sense of belonging shifted during the pandemic from being associated with skills like being socially engaged, emotionally balanced, and allowing others to know them personally, to be more about building effective relationships, maintaining emotional closeness despite physical distance, and showing care and concern for others. Additionally, she indicated that individuals with a high sense of belonging during the pandemic are those who accept and value themselves, even in challenging times with a difficult external environment.

The increase in new acquaintances post-pandemic, while deep friendships declined, indicates that the pandemic may have created an opportunity for individuals to reevaluate and potentially reshape their social relationships. This period of upheaval prompted many to seek out new connections, leading to the formation of fresh bonds and effective networks. This phenomenon suggests that amidst the disruption, individuals

may have become more intentional and discerning in cultivating meaningful connections, emphasizing quality over quantity in their social interactions.

These newly established connections with others, spurred by the pandemic, have the potential to enhance one's sense of belonging and satisfaction within their social circle, ultimately underscoring the significance of relationships in their life.

Virtual Communication

Virtual communication emerged as the dominant mode of interaction during the pandemic, with participants reporting a high level of satisfaction with it as a mode of communication. Furthermore, participants expressed a strong willingness to continue relying on virtual communication even after the pandemic. This suggests that virtual communication technologies played a vital role in maintaining and even strengthening social connections during the pandemic, enhancing the sense of belonging and facilitating the building of new social capital. Despite the fact that the statistical analysis of my study did not conclusively prove or disprove my second hypothesis (H2), this substantial evidence supports it.

However, Juvonen et al. (2021) suggested that satisfying electronic contact with friends was particularly protective against loneliness and emotional distress among truly isolated individuals. This suggests a more personal and immediate benefit of virtual communication during the pandemic, as it pertains to maintaining and strengthening existing relationships in times of physical isolation resulting from the pandemic, rather than establishing new ones. Virtual communication, in addition to its role in social capital formation, offers a source of emotional support, a sense of belonging, and an opportunity to strengthen existing relationships during the times of isolation, which can be critical for building resilient social capital.

Social Distancing Measures

Surprisingly, social distancing measures were not found to have a statistically significant impact on social capital in the regression analysis. This result does not fully support Hypothesis 1, which suggested a negative impact of social distancing measures on bonding and bridging social capital within communities. However, the findings suggest that other factors, such as the positive community response, and the extensive use of virtual communication, may have mitigated the potential negative effects of social distancing measures on social capital.

Civic Connection

Before the pandemic, participants reported a relatively low level of civic connection, suggesting that activities related to civic engagement, such as political involvement, volunteerism, and community participation, were not prominent features of their social capital. Given the baseline of low civic engagement, it is noteworthy that the pandemic had a mixed impact on various dimensions of civic connection. There was a slight increase in political engagement during the pandemic, likely attributed to the shift towards virtual communication providing a platform for political discourse and engagement. Additionally, there was an observable shift in organizational involvement post-pandemic, indicating individuals' inclination towards interest-based groups for reconnection and engagement. However, a significant proportion of participants (65%) reported not engaging in unpaid volunteer work during the pandemic, likely due to increased lockdowns and concerns about health and safety. Instead, 61% reported donating either money or goods, recognizing their impactful potential in times of economic challenges brought about by the pandemic. These trends are consistent with OECD (2022) findings, which highlighted the disruptions in traditional volunteer programs across various sectors.

Differential Effects on Social Capital among Social Groups

The Kruskal-Wallis tests revealed no statistically significant differences in social capital measures across various demographic and situational categories, except for gender. Significant gender-based differences were observed in multiple aspects of social capital measures. Males exhibited higher levels of trust in society, particularly in group trust and institutional trust. They also displayed higher levels of civic engagement, including organization involvement and political engagement. This suggests that the pandemic had varying impacts on social capital between genders, with males tending to exhibit higher levels in social capital. The stark gender-based differences in social capital measures are a significant finding, emphasizing the necessity of gender-sensitive research and targeted policy interventions. Understanding how the pandemic affected social capital differently for women and men is vital for fostering equitable and resilient communities.

Conclusion

In light of these findings, it is evident that the COVID-19 pandemic has reshaped social dynamics in complex ways. While the findings shed light on the resilience of certain aspects of social trust and connections, they also highlight areas of potential division and the importance of inclusive initiatives. As societies continue to navigate the aftermath of this global crisis, understanding these nuances in social capital will be crucial for building more inclusive, connected, and resilient communities in the future.

Looking forward, conducting longitudinal studies that extend beyond the pandemic period would provide a deeper understanding of the long-term effects on social capital. This would enable researchers to track changes in social trust, network connections, and civic engagement over an extended timeframe. Additionally, comparing the impact of the pandemic on social capital across different regions or countries would

offer insights into how cultural, societal, and policy differences influence social bonds during crises. This comparative approach can help identify best practices and strategies for fostering resilient social capital in diverse contexts.

The observation of a potential increase in polarization or mistrust towards those perceived as different during the COVID-19 pandemic raises important questions for future research. Researchers can delve into the specific factors that contribute to polarization and mistrust. Understanding the factors driving polarization and mistrust is essential for preserving and strengthening social capital, especially in times of crisis like the COVID-19 pandemic. Addressing these issues can help rebuild trust, bridge divides, and promote a more inclusive and cohesive community, ultimately enhancing overall social capital.

In addition, given the prominence of virtual communication during the pandemic, further research into the evolving role of technology in shaping social connections is warranted. This includes exploring the impact of virtual interactions on trust, belonging, and the quality of social relationships. Additionally, researchers can investigate the differences in social capital obtained through face-to-face interactions compared to virtual ones. Understanding how these two modes of communication contribute to social capital can provide valuable insights into the changing dynamics of community cohesion and the potential benefits of virtual connections.

While this research provides valuable insights into the impact of the COVID-19 pandemic on social capital, it is important to acknowledge some limitations. One of the limitations of this research is that the sample size was relatively small, which could impact the statistical power and precision of the results. It is worth noting, however, that despite this constraint, the findings of this research align with previous studies conducted

in the same field, which adds weight to the validity of the outcomes obtained in this research.

Second, it is important also to highlight that a significant majority of participants (78%) in this study were from Saudi Arabia. This geographical concentration may introduce potential bias in the results, as cultural, social, and economic contexts specific to Saudi Arabia could influence participants' responses, thereby impacting the generalizability of the findings beyond this particular population. However, it is noteworthy that the data analysis did not reveal statistically significant differences in the impact of the pandemic on social capital when I analyzed data based on the participants' countries of origin. This observation suggests that, despite the predominance of Saudi Arabian participants, the findings of this study may be still relevant to other countries.

Finally, it is worth noting that the data collected relies on participants' self-reports, which may introduce response bias or social desirability bias. Participants might provide answers they believe are expected rather than reflecting their true experiences and perceptions.

In conclusion, this research provides a foundation for future explanation in understanding the impact that the COVID-19 pandemic had on our social life. As we move forward, it is essential to use these insights to inform policies and interventions that promote trust, connection, and inclusivity in our societies, fostering resilient and harmonious communities in the face of future challenges.

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APPENDIX A:

DISTRIBUTION OF THE RANGE OF AVERAGE AND THEIR CLASSIFICATION

Table A.1

Distribution of the range of average and their classification according to the four-fold gradient

The description	Range of averages
Very likely	3.26 - 4
Somewhat likely	2.51 – 3.25
Cannot say	1.76 – 2.50
Not likely at all	1 – 1.75

Table A.2

Distribution of the range of average and their classification according to the five-fold gradient

The description			Range of averages
More than 20	Regularly	Strongly agree	4.21 – 5
11-20	Occasionally	Agree	3.41 – 4.20
6-10	Rarely	Neither agree nor disagree	2.61 – 3.40
Between 1-5	Cannot say	Disagree	1.81 – 2.60
0	Never	Strongly disagree	1 – 1.80

APPENDIX B:
RESEARCH SURVEY

The Informed Consent:

Dear Participant,

I would like to invite you to participate in a research study aimed at understanding the impact of the COVID-19 pandemic on social capital. Social capital refers to the networks of relationships, both formal and informal, that exist between individuals, groups, and institutions. These networks can be made up of family members, friends, colleagues, neighbors, and other acquaintances. Social capital can provide individuals and groups with access to resources, information, and opportunities that they might not have had otherwise. It can also help to build trust, cooperation, and social cohesion within a community. The study is being conducted by Najwa Alzahrani, a graduate student at the University of Houston-Clear Lake, with the supervision of Dr. John Mike McMullen. Your participation is entirely voluntary, and I would appreciate it if you could spare a few minutes to complete the survey.

The purpose of this study is to gather information about the social networks of individuals and their experiences during the pandemic. Your responses will be anonymous, and your personal information will be kept confidential.

The survey will take approximately 30 minutes to complete, and you can choose to skip any questions that you do not feel comfortable answering.

Please note that there are no right or wrong answers, and I am interested in hearing about your personal experiences.

To participate, please answer the following questions. If you have any questions or concerns, please feel free to contact us at Alzahrani7107@uhcl.edu

Thank you for your time and participation.

Sincerely, Najwa Alzahrani

The Survey Questions

Demographics

1-How old are you? {select from zero to 100}

2-What is your gender? _____ (write the answer)

3- what is your nationality? _____ (write the answer)

4-what is your race? _____(write the answer)

5-what is your religion? _____(write the answer)

6-What is your country of residence during the pandemic? _____

7-Name your city of residency during the pandemic. _____

8- How long have you lived in this city? {choose from a scale)

*Less than 6 months

*6 months to less than a year

*1 to less than 3 years

*3 to less than 5 years

*5 to less than 10 years

*10 years or more

*My entire life

*Cannot say

9 -In what type of residence did you live in during the pandemic?

*Single-Family Home

*Condominium(condos)

*Townhouse

*Multi-Family Home

*Co-op

*Apartment

*Cannot say

-Is this dwelling:

*Owned by your family or a member of this household

*Rented

10 - Which of the following categories best corresponds to the total annual income, of all members of your household, for 2021?

*No Income

*Under \$30,000

*\$30,000 to \$59,999

*\$60,000 to \$79,999

*\$80,000 to \$99,999

*\$100,000 and over

*Cannot say

11-What is your highest level of education completed? (choose from a scale)

*No schooling completed

*Nursery school to 8th grade

*Some high school, not graduated

*High school graduate, diploma or the equivalent

*Some college credit, no degree

*Trade/technical/vocational training

*Associate's degree

*Bachelor's degree

*Master's degree

*Doctorate degree

*Professional degree

12-Which of the following best describes your work situation during the pandemic? {choose from a scale)

*I have been working from home

*I have been working from home some days but not every day

*I have continued to work from my usual workplace outside my home

*I was already working from home before the pandemic, and this has not changed

*Stay at home full-time

*Student

*Retired

*Self-employed

*Unemployed or looking for a job.

*Cannot say

13- How many times have you had a positive test for Covid-19? { select from zero to 10}

14-How many people are in your household? { select from zero to 100}

15- How many times has one of your household members had a positive test for Covid-19? {select from zero to 100}

16- How often has one of your close friends and family living outside of your household tested positive? {select from zero to 100}

Operationalized concepts:

Social trust

1.General trust

17-Generally speaking, would you say that most people can be trusted?

Strongly agree, agree, neither agree nor disagree, disagree, strongly disagree.

18-If you lost a wallet or purse that contained \$200, how likely is it to be returned with the money in it if it was found by someone who lives close by

Very likely, somewhat likely, not at all likely, cannot say.

19-If you lost a wallet or purse that contained \$200, how likely is it to be returned with the money in it if it was found by a police officer

Very likely, somewhat likely, not at all likely, cannot say.

20-If you lost a wallet or purse that contained \$200, how likely is it to be returned with the money in it if it was found by a stranger

Very likely, somewhat likely, not at all likely, cannot say.

21- Does your decision about trusting people changed since the pandemic?

*yes * no. Explain your answer _____

2. Group trust

22-How long have you lived in your neighborhood? {choose from a scale}

*Less than 6 months

*6 months to less than a year

*1 to less than 3 years

*3 to less than 5 years

*5 to less than 10 years

*10 years or more

*My entire life

*Cannot say

23-Is it the same neighborhood that you live in now?

*yes *no

24-If not, how long have you lived in the neighborhood that you lived in during the pandemic?

{choose from a scale)

*Less than 6 months

*6 months to less than a year

*1 to less than 3 years

*3 to less than 5 years

*5 to less than 10 years

*10 years or more

*My entire life

*Cannot say

25-Would you say that you know:

*Most of the people in your neighborhood

*Many of the people in your neighborhood

*A few of the people in your neighborhood

*None of the people in your neighborhood

*Cannot say

26-Did you meet any new people from your neighborhood during the pandemic?

*yes * no *cannot say

27- Please tell me how strongly you agree or disagree with the following statements about the people who live in your neighborhood during the pandemic.

A- People around here are willing to help their neighbors.

Strongly agree, agree, neither agree nor disagree, disagree, strongly disagree.

B- This is a close-knit community.

Strongly agree, agree, neither agree nor disagree, disagree, strongly disagree.

C- People in this neighborhood can be trusted.

Strongly agree, agree, neither agree nor disagree, disagree, strongly disagree.

D- This neighborhood has safe places for children to play.

Strongly agree, agree, neither agree nor disagree, disagree, strongly disagree.

E- The crime in my neighborhood makes it unsafe to go on walks at night.

Strongly agree, agree, neither agree nor disagree, disagree, strongly disagree.

28-Thinking about where you lived during the pandemic, are you within easy walking distance of the following places:

A- Recreational facilities or a community center.

*Yes *no *cannot say

B- Somewhere you can buy groceries.

*Yes *no *cannot say

C- Parks or other types of green space.

*Yes *no *cannot say

D- A transit stop for bus, streetcar, or subway.

*Yes *no *cannot say

29-During the days of the pandemic, in good weather, how many days in a typical week did you walk at least three blocks in your neighborhood?

0-1

2-3

4-5

6-7

Cannot say.

30- Using a scale of 1 to 5 (where 1 means "cannot be trusted at all" and 5 means "can be trusted a lot"), how much did you trust each of the following groups of people during the pandemic?

A- People in your family

- B- People you work with or go to school with
- C- People who speak a different language than you
- D- Strangers
- E- People whose ethnic background is very different from yours
- F- People whose political views are different from yours

3. Institutional confidence

Now a few questions about the level of confidence you had in various institutions during the pandemic.

31- Using a scale of 1 to 5, where 1 means " no confidence at all" and 5 means "a great deal of confidence," how much confidence did you have in?

- * The police
- * The justice system and courts
- * The school system
- * Local merchants and businesspeople
- * Local media
- * Social media
- * City Hall
- * Your local City Councilor
- * Neighborhood centers serving your local community
- * Charities or not-for-profit organizations serving your local community
- * Religion center (church -masjid -temple, etc.)

32-If you were to fall on hard times during the pandemic, how much confidence do you have that the following people or agencies could be able to provide you the help you needed?

- * A government agency
- * A religious institution, like a local church, temple or mosque

* Family or close friends

* A charitable organization in your community

33-Do you think that your government policies to control the pandemic were effective?

*Yes *no *cannot say

4. Sense of Belonging

34- How would you describe your sense of belonging to your local community during the pandemic?

Would you say it is?

very strong, somewhat strong, somewhat weak, very weak, cannot say.

Social Networks

1.Family connection

PLEASE PROVIDE the BEST ESTIMATE

35- A. How many relatives do you have whom you felt close to before the pandemic (that is who you feel at ease with, can talk to about what is on your mind, or call on for help)? This may include people you live with.

* 0

* Between 1-5

* 6-10

* 11-20

* More than 20

B. How many of these relatives were live in the same city or local community as you during the pandemic?

* 0

* Between 1-5

* 6-10

* 11-20

* More than 20

C. How many of these relatives were you able to keep close communication with during the pandemic?

* 0

* Between 1-5

* 6-10

* 11-20

*More than 20

D. How many relatives became closer during the pandemic?

* 0

* Between 1-5

* 6-10

* 11-20

* More than 20

E. How many relatives do you have whom you feel close to currently (that is who you feel at ease with, can talk to about what is on your mind, or call on for help)?

* 0

* Between 1-5

* 6-10

* 11-20

*More than 20

2. Close friend connection

36-A. How many close friends do you have before the pandemic (that is, people who are not your relatives but who you can feel at ease with, can talk to about what is on your mind, or call on for help)?

* 0

* Between 1-5

* 6-10

* 11-20

* More than 20

B. How many of these close friends live in the same city or region as you during the pandemic?

* 0

* Between 1-5

* 6-10

* 11-20

* More than 20

C. How many of these close friends were you able to keep close communication with during the pandemic?

* 0

* Between 1-5

* 6-10

* 11-20

* More than 20

D. How many new friends you knew and become close with during the pandemic?

* 0

* Between 1-5

* 6-10

* 11-20

* More than 20

E. How many close friends do you have currently?

* 0

* Between 1-5

* 6-10

* 11-20

* More than 20

3. Other friend connection

37- (Not counting your close friends or relatives)

A. How many other friends do you have before the pandemic?

* 0

* Between 1-5

* 6-10

* 11-20

* More than 20

B. Were you able to make new friends (even if not very close) during the pandemic?

Yes, No

- If yes, how many

* 0

* Between 1-5

* 6-10

* 11-20

* More than 20

C. How many other friends do you have right now?

* 0

* Between 1-5

* 6-10

* 11-20

* More than 20

4. Type and frequency of friend/family connection

38-During the pandemic, how often did you participate in these activities in person:

A. Weddings

* 0

* Between 1-5

* 6-10

* 11-20

* More than 20

B. Funerals

* 0

* Between 1-5

* 6-10

* 11-20

* More than 20

C. Religious activities

* 0

* Between 1-5

* 6-10

* 11-20

* More than 20

D. Clubs

* 0

* Between 1-5

* 6-10

* 11-20

* More than 20

E. Family gatherings

* 0

* Between 1-5

* 6-10

* 11-20

* More than 20

F. Social events such as a conference or a symposium, or any type of professional gathering.

* 0

* Between 1-5

*6-10

* 11-20

*More than 20

G. Education class or business meeting

* 0

* Between 1-5

* 6-10

* 11-20

*More than 20

H- A concert or any art or entertainment event.

* 0

* Between 1-5

* 6-10

* 11-20

* More than 20

39- During the pandemic, how often did you participate in these activities virtually:

A. Weddings

* 0

* Between 1-5

* 6-10

* 11-20

* More than 20

B. funerals

* 0

* Between 1-5

* 6-10

* 11-20

* More than 20

C. religious activities

* 0

* Between 1-5

* 6-10

* 11-20

* More than 20

D. clubs

* 0

* Between 1-5

* 6-10

* 11-20

* More than 20

E. Family gatherings

* 0

* Between 1-5

* 6-10

* 11-20

* More than 20

F. Social events such as a conference or a symposium, or any type of professional gathering.

* 0

* Between 1-5

* 6-10

* 11-20

*More than 20

G. Education classes or business meetings

* 0

* Between 1-5

* 6-10

* 11-20

* More than 20

H- A concert or any art or entertainment event.

* 0

* Between 1-5

* 6-10

* 11-20

*More than 20

40-What digital tools or platforms do you use to communicate and connect with others in these activities: (check all that apply)

Facebook, Zoom, WhatsApp, Telegram, Instagram, Twitter, TikTok, FaceTime, Teams, All that apply, Other, specify: _____

5. Satisfaction with the frequency of connection

41- Overall, how satisfied are you with how often you communicate with people? Were you:

Very satisfied

Satisfied

Neither satisfied nor dissatisfied

Dissatisfied

Very dissatisfied

42- Overall, how satisfied are you with the new connections that you made during the pandemic?

Were you:

Very satisfied

Satisfied

Neither satisfied nor dissatisfied

Dissatisfied

Very dissatisfied

43- How likely will you continue to participate in these activities or some of them virtually after the pandemic?

Very likely

Somewhat likely

Just in need but do not prefer

Never

I do not know

Civic connections

1. **Organizational Involvement**

44-During the pandemic, how often did you have access to the Internet?

Always

Most of the time

Often

Rarely

I do not have an access

45-During the pandemic, what devices did you use to access the Internet? Did you use: (check all that apply)

A smartphone

Laptop or netbook

Tablet

Desktop computer

46-During the pandemic, did you have access to each of the following types of support or service if or when you needed it?

A. A family doctor or a neighborhood health clinic.

*yes *no *cannot say

B. Childcare, or before-school, or after-school care for your child or children (if this is applicable to you back then)

*yes *no *cannot say

C. Mental health or counseling services

*yes *no *cannot say

46-During the pandemic, how often have you used any of the following facilities in your community?

A. A public library

Regularly

Occasionally

Rarely

Never

Cannot say

B. A gym, fitness center or recreational center.

Regularly

Occasionally

Rarely

Never

Cannot say

C. An outdoor park

Regularly

Occasionally

Rarely

Never

Cannot say

D. A theatre, concert hall, art gallery, or a cultural or arts center

Regularly

Occasionally

Rarely

Never

Cannot say

E. A community center

Regularly

Occasionally

Rarely

Never

Cannot say

47-Before the pandemic, how often have you used any of the following facilities in your community?

A. A public library

Regularly

Occasionally

Rarely

Never

Cannot say

B. A gym, fitness center, or recreational center.

Regularly

Occasionally

Rarely

Never

Cannot say

C. An outdoor park

Regularly

Occasionally

Rarely

Never

Cannot say

D. A theatre, concert hall, art gallery, or a cultural or arts center

Regularly

Occasionally

Rarely

Never

Cannot say

E. A community center

Regularly

Occasionally

Rarely

Never

Cannot say

48-In the past 24 months, were you a member or participant in: (check all that apply)

- A sports or recreational organization.
- A religious-affiliated group (such as a church group or choir, but not a church, synagogue, mosque etc.)
- A cultural, educational, or hobby organization.
- A union or a professional association.
- A seniors group.
- A youth organization.
- A political party or group.
- An immigrant or ethnic association or club.
- A service club (such as Rotary or the Legion).
- Any other type of organization that has not been mentioned (name it) _____.
- Nothing/do not belong to any.

2. Giving back

49-During the pandemic, did you do unpaid volunteer work for any organization or charity?

*Yes. *No *Cannot say

50-During the pandemic, did you donate money or goods to any organization or charity?

*Yes. *No *Cannot say

3. Political engagement

51-Generally speaking, how interested are you in politics (e.g., international, national, provincial, or municipal)? From very interested to not at all.

•Very interested.

•Somewhat interested.

•Not very interested.

•Not at all interested.

•Cannot say.

52- During the pandemic, how interested were you in politics (e.g., international, national, provincial, or municipal)?

•Very interested.

•Somewhat interested.

•Not very interested.

•Not at all interested.

•Cannot say.

Adherence and response to the pandemic measurements:

53- To what extent do you approve of the following statements?

Strongly agree. Agree. Neither agree nor disagree. Disagree. Strongly disagree.

During the pandemic:

A. I kept a social distance (within 6 feet) from people who did not live with me.

B. I avoided touching my face while in public spaces.

- C. I kept wearing a mask indoors and in crowded places.
- D. I think government policies to control the pandemic were effective.
- E. My community has made significant efforts to slow the spread of COVID-19.
- F. My community has provided support to those impacted by the COVID-19 pandemic.
- G. My community has advocated for policies and resources to address the impacts of COVID-19 on marginalized communities.
- H. My community has demonstrated a strong sense of unity and cooperation in response to the COVID-19 pandemic.