



Compliance with COVID-19 Public Health Measures: Exploring Perspectives of Younger Adults in Ontario

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ABSTRACT

To slow the spread of COVID-19, public health mitigation strategies were implemented globally. Compliance with these measures varied greatly among different age groups in Ontario, Canada, with lower compliance found among adults 20 to 39 years of age. The objectives of this study were to explore facilitators and barriers to adherence to COVID-19 public health measures among these young adults, and to use insights gathered from this research to inform interventions that address the identified barriers. A total of five focus groups with 22 participants were conducted in December 2020. Participants were eligible to be included if they were English-speaking, aged 20 to 39 years, resided in a specific medium-sized city, and had access to the internet. A phenomenological research design was used, and data were analyzed using a notes-based thematic approach. Several themes emerged as barriers or facilitators to compliance including concern for others, weather, social pressure or influence, and potential shame or guilt. Many participants reported assessing their own risks to determine their level of compliance, and most tried to mitigate harms if they did not follow the measures. The findings from this project fill a current gap in understanding the complex factors that influence compliance with public health infection control measures. They also offer practical recommendations to inform health promotion strategies to increase compliance not only for COVID-19 measures, but for other and future infectious diseases as well.

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INTRODUCTION

Public health departments and various levels of government globally implemented measures to decrease the transmission of COVID-19 throughout 2020 to 2022. These measures were informed by guidance from the World Health Organization and broadly included social or

physical distancing (i.e., maintaining at least 1-metre distance from others who are not in your household), consistently wearing a mask, practicing good hand hygiene, avoiding people beyond those they live or work with, isolating when symptomatic, and adhering to isolation requirements after testing positive (World Health Organization, 2020). Throughout 2020,

specifically in Ontario, case rates of COVID-19 were high in young adults aged 20 to 40 years relative to other age groups (Government of Canada, 2022). The popular narrative amongst the general public and media hypothesized that this was due to lack of compliance of younger adults and that they were not concerned with the risk from COVID-19 and/or not feeling responsible for the health and safety of others (Frketich, 2020). However, the Project Team for this study hypothesized that non-compliance may be more complex in nature, and may be caused by circumstantial challenges with compliance with COVID-19 public health recommendations specific to this age group.

Studies conducted early in the pandemic examined correlates of compliance with COVID-19 measures among different age groups. These studies found that women, compared to men, and older adults typically had better compliance with recommendations (Brouard et al., 2020; Clark et al., 2020; Kuiper et al., 2020; Nivette et al., 2021; Zettler et al., 2021). It was also noted that young adults typically reported low shame/guilt and low self-control, which was related to higher rates of non-compliance (Nivette et al., 2021). Most of these studies relied primarily upon cross-sectional surveys or were not conducted in the Canadian context. Few studies used qualitative methods to explore barriers or facilitators to following public health measures during the pandemic.

With limited evidence available to inform strategies to increase compliance, public health leaders identified the need to understand local community perceptions to create effectively tailored messaging and health promotion approaches to infection control measures. Therefore, the purpose of this qualitative study was to identify and examine the barriers and facilitators to compliance with COVID-19 measures from the perspective of adults aged 20 to 39 years in Ontario to inform public health approaches. Health systems produce vast amounts of textual data in their daily operations—for example, media releases, strategic planning documents, and patient feedback forms. Further, individuals themselves may discuss their own health in many text-based forums, such as social media platforms, providing data regarding what people say about their own health and their understanding of public health and healthcare services. These various sources are likely to contain useful information for applied health researchers to draw inferences about the health of certain communities and health systems.

METHODS

SAMPLING

Individuals between the ages of 20 to 39 who resided in a specific geolocation in Southern Ontario were eligible to be included in the study. The location chosen was a mid-sized city of approximately 500,000 residents with a mix of urban and rural living space. It was a requirement that participants spoke English. The focus groups were conducted online to comply with public health measures; thus, participants were required to have access to technology (i.e., computer, tablet, or phone) and the internet to participate. Individuals who did not meet these criteria were not eligible for inclusion in the study.

STUDY CONTEXT

It is important to note first that COVID-19 public health measures were put in place in March 2020, but they changed over time. When the focus groups were conducted in early to mid-December 2020, the location of the study had been in the Red-Control category of the province of Ontario's COVID-19 Response Framework since November 16, 2020 (Government of Ontario, 2021). This category advised people to restrict close contacts and social gatherings to household members only, elementary and secondary schools were offered only online, and masks or face coverings were required in all public places including some outdoor settings. Prior to November 16, 2020, the study location was in the Yellow-Protect category, during which school options included either online or in-person with protocols in place, limiting close contacts and social gatherings were recommended but not restricted to household members only, social gatherings could include up to 10 people, and masking was required for indoor public spaces (Government of Ontario, 2021). This context is important since participants were asked to reflect and discuss their behaviours *throughout* both provincial categories.

IMPLEMENTATION

Focus group recruitment took place in December 2020. Twenty-two participants were recruited using social media promotion and through paid advertisements targeting the geolocation of the city of interest on Instagram, Twitter, and Facebook. These platforms were chosen based on the typical age of users and ability to apply



geolocation restrictions on ads. Recruitment ads included mention of an incentive; focus groups participants were eligible for a monetary incentive (\$25 gift card for Indigo). The anticipated sample size of 20 to 25 participants for the focus groups was met on December 2, 2020, and recruitment ended at this point. The sample size was based on the need to keep the virtual focus group sizes smaller based on best practice (Lobe & Morgan, 2021), and the urgency of the project to hear from the target audience and implement barrier reducing strategies.

A total of five focus groups were conducted between December 8 and 16, 2020. The focus groups were hosted through the WebEx platform, which is a recommended and secure video conference platform for conducting qualitative research during a time of physical distancing in the COVID-19 pandemic (Lobe & Morgan, 2021). Each focus group had 3 to 6 participants; a minimum of three participants were required to run a focus group based on evidence that supports smaller group sizes when using a virtual platform; smaller groups helped to ensure adequate discussion would take place among participants (Lobe & Morgan, 2021). The core Project Team consisted of two research assistants experienced in qualitative research methodology and a health promotion specialist. The team was supported by an additional health promotion specialist, a public health physician, and a public health librarian. Three team members were present for each focus group: one moderator and two notetakers. One notetaker recorded levels of agreement or disagreement using a consensus matrix, while the second took notes of salient or noteworthy comments. The focus group questions developed by the Project Team can be found in Appendix A. The development of the questions were informed by the COVID-19 Own Risk Appraisal tool (Jaspal et al., 2022), as well as a rapid review of literature to identify any important areas that should be included in the focus group guide. All questions were open-ended and explored participants' experience with compliance. Focus groups were recorded with participants' permission.

ETHICS

At the beginning of the study, the Project Team completed the Public Health Ontario Risk

Screening Tool (*Risk Screening Tool (RST)*, 2022), which indicated no risks associated with this study (score of 0-1), meaning that a formal application with a research ethics board was not needed. Informed consent was obtained from all participants through a signed letter of information, and verbal consent to record the session was collected at the start of each focus group. Participants were ensured that their information would be kept anonymous and shared only in aggregate for research purposes. All participants were reminded that they could choose not to answer any questions and could leave the session at any time. A list of local, regional, and national mental health support services was shared at the end of each session for participants facing added stress or mental health issues due to the pandemic.

REFLEXIVITY

The Project Team practiced reflexivity throughout the project. The Team debriefed after each focus group to discuss how each members' own judgements may influence the research process. The Project Team acknowledged that they were also living through the COVID-19 pandemic and that they could relate to many of the experiences and challenges identified by participants in the focus groups. However, the practice of debriefing and reflexivity helped minimize bias and assumptions, although these qualities are inherent to qualitative research. The Project Team also used the debriefs to discuss patterns that were emerging to determine when a sufficient level of saturation had been reached and to reflect on the facilitation process.

DATA ANALYSIS

A notes-based thematic analysis (Tuckett, 2005) was used to identify prevalent themes within and between focus groups. Due to time and budget constraints, the focus groups were recorded but not transcribed. Each focus group had two notetakers which produced sufficient and rigorous data to be analyzed: a consensus matrix and longhand notes that contained direct participant quotations. The Project Team referred to the video recordings to fill any gaps in the notes and to confirm accuracy. Themes were originally identified by two research assistants and then reviewed and validated by other Project Team members.

RESULTS

BARRIERS TO COMPLIANCE

SOCIAL OR FAMILY PRESSURE/INFLUENCE

Several participants (n = 7/22; 32%) across over half of the focus groups (n = 3/5; 60%) stated that they felt pressured or influenced by family or friends to break COVID-19 measures. In one focus group, influence and pressure from parents was a key barrier. One participant described feeling guilty if they were to say, “no” when asked to visit their parents. In another focus group, one participant stated that cultural norms play a role in compliance. Some participants (n = 3/22; 14%), described that seeing others not complying influenced their decisions and made them feel as if they also did not need to comply.

CAREGIVING

Several participants (n = 7/22; 32%) across most focus groups (n = 4/5; 80%) who reported that they were interacting with members outside of their household justified their actions based on the need for childcare or caregiving support. Some of these participants (n = 4/7; 57%) expressed the need for help with childcare while they were working. In all cases, childcare was provided by another family members such as a grandparent. Among these participants, assistance with remote/online learning for a child was also a reason they interacted with people outside their household. A few participants (n = 2/22; 9%) in two of the five focus groups reported non-compliance due to assisting older family members with medical appointments or groceries.

MENTAL HEALTH

Across most focus groups (n = 4/5; 80%), many participants reported that they did not comply with social gathering restrictions because they needed to support their mental health (n = 9/22; 41%). For example, one participant explained that they selected who to see or not see based on who they felt best supported their mental health (e.g., seeing family members instead of friends). In another focus group, a participant explained that they saw their partner, from another household, if they were having a “difficult” mental health week.

COLD WEATHER

Cold weather appeared to influence some participants’ decisions to socialize with individuals outside their household. When the weather became colder in Autumn 2020, some participants (n = 8/22; 46%) across all focus groups, acknowledged that social opportunities outdoors became more limited. For example, one participant noted that they gathered indoors because the weather was “getting worse”. The timing of cold weather coincided with seasonal and religious holidays, which made compliance more challenging for two participants who described family pressure to attend. In general, it was reported that social gatherings migrated indoors because of colder weather despite acknowledgment that public health measures advised against this.

PUBLIC HEALTH MESSAGING

Several participants (n = 8/22; 36%) across over half of the focus groups (n = 3/5; 60%) identified that there was confusion regarding the messaging of public health measures (i.e., what was allowed and when), and that messaging could be improved to better support their compliance. For instance, in one focus group, one participant explained that the messaging about supporting local businesses was confusing because at the same time, there was also messaging that recommended individuals to stay home and not leave the house. Two other participants in the group agreed with that viewpoint. Although participants recognized that the quickly changing nature of the pandemic led to different public health measures and messages, the changes still created confusion for a few participants (n = 2/22; 9%). Within the same focus group, one participant felt that the changes in messaging led to uncertainty in where to find the most relevant and accurate information.

FACTORS TO COMPLIANCE

CHANGING CASE NUMBERS

Several participants (n = 7/22; 32%) across most focus groups (n = 4/5; 80%) indicated that the daily case numbers and/or “horror stories” from other countries influenced their likelihood to follow public health measures. For example, one participant stated that he woke up every day and



looked at new case numbers in Canada and the United States, which motivated him to follow the measures. This view was shared by three participants in another focus group. A few participants ($n = 3/22$; 14%), each in different focus groups, acknowledged that they increased their compliance with measures once the city was moved to the Red-level of Ontario's framework.

WARMER WEATHER

Most participants ($n = 17/22$; 77%) across all focus groups reported that they socialized outdoors with individuals outside of their household during the warmer months. A common theme was that socializing outdoors was a safer compromise than gathering indoors. The tendency to have warm weather gatherings coincided with the public health guidance that maintaining a "social bubble" with another household was permitted between June and October 2020. However, a few participants ($n = 4/22$; 18%) reported that they followed all public health measures, including no social gatherings, even during the summer.

CONCERN FOR OTHERS OR THEIR COMMUNITY

Participants ($n = 14/22$; 63%) across most focus groups ($n = 4/5$; 80%) identified that their concern for others or their community influenced their compliance. This view was expressed quite strongly and uniformly in one focus group, where participants had a high level of agreement. In other focus groups, some participants identified that this was an important influence, but they were also selective in their compliance. For example, one participant expressed concern for their older relatives, whom they would not visit, but they reported socializing with friends and younger family members.

Some participants ($n = 4/22$; 18%) lived with high-risk immunocompromised individuals or young children, while others ($n = 5/22$; 23%) limited their contact with individuals outside of their household who were high-risk. For some participants, these circumstances encouraged them to follow public health measures more closely. Only a few participants ($n = 4/22$; 18%) reported that they had not socialized with certain friends or family since the beginning of the

pandemic out of concern for their health or well-being. A few participants ($n = 4/22$; 18%) stated that they wanted to do their part for their community and be responsible to get to the end of the pandemic sooner.

SOCIAL NORMS

While many participants described experiencing social or family pressure to not follow public health measures, some participants ($n = 10/22$; 45%) across all focus groups indicated or acknowledged that the behaviours of others in their social circles or families increased their own compliance. A few participants in two focus groups stated that they were influenced to follow measures by relatives who worked in healthcare ($n = 3/22$; 14%). Similarly, a few participants ($n = 3/22$; 14%) across more than half of the focus groups ($n = 3/5$; 60%) described that their peer groups changed their behaviours over time or as public health measures were updated, indicating that some participants were discouraged from socializing because their social circles were complying with measures. It is important to acknowledge that some participants experienced both positive and negative social influence. For example, one participant shared that their friends were adamant about following current measures, but their parents encouraged them to visit indoors. This view was shared by another participant in a different focus group.

POTENTIAL SHAME OR GUILT

Some participants ($n = 7/22$; 32%) expressed that they would feel shame or guilt if they got COVID-19 and then infected others, which influenced their compliance. Some were afraid to have to tell others that they tested positive or were afraid of stigma in the workplace or on social media associated with getting COVID-19. In general, when one participant would identify potential shame or guilt as an influence on compliance, others in the focus group would agree with this view broadly but not elaborate on how it specifically influenced their individual behaviour. However, in two of the three focus groups where potential shame or guilt was identified, there were other participants who did not agree with them. This suggests that potential shame or guilt did not encourage compliance for all participants.

RISK ASSESSMENT

It was implied by most participants that they did some sort of risk assessment before choosing not to comply with public health measures. A small number of participants (n = 3/22; 14%) explicitly stated that they made strategic decisions and assessed potential risks before being non-compliant. However, half of all participants (n = 11/22; 50%) described scenarios where they assessed the perceived risks and justified their non-compliance based on unique needs or situations (i.e., childcare support, mental health reasons, seeing their parents, etc.). For some participants (n = 3/22; 14%), selective compliance may have been prompted by feeling less worried about COVID-19 risks than they did when the pandemic started, explaining that they followed measures quite strictly during the first lockdown but became more lenient or selective over time.

HARM MITIGATION

Most participants (n = 15/22; 68%) described taking steps to reduce the likelihood of getting or spreading COVID-19 when not complying with public health measures. Many stated that they would try to physically distance when socializing with people outside of their household (n = 11/22; 50%) or wear a mask when distancing was not possible (n = 6/22; 27%). One participant reported that they have limited the people they interact with to a few select households, and another explained that they avoid older family members. Several participants in different focus groups also stated that they would avoid visiting people from more than one other household in the same week, or spread out their socializing (e.g., once every three weeks). The general approach that participants took to mitigate harm when socializing with people they do not live with is best summarized by the view of one participant: “not as often but always trying to be careful”. It is important to note that participants generally stated that they did not wear masks indoors or outdoors when socializing with individuals outside of their household.

REPORTED IMPACT OF PUBLIC HEALTH MEASURES

LOW SOCIAL INTERACTION

68% of participants stated that their social life decreased significantly once the pandemic began.

Four participants mentioned that virtual/online platforms, used frequently for interacting with others at the beginning of the pandemic, became less popular or tolerable as the pandemic went on. Two participants, from different focus groups, stated that they were working from home, and therefore, they did not interact with anyone outside their household all day.

FEELING TIRED OR WORN DOWN

Half of all participants (n=11/22; 50%) expressed feelings of being tired or worn down because of the pandemic and ongoing public health infection control measures. Across two focus groups, three participants identified feeling tired from the constant use of virtual platforms for work and socializing. Some participants who were not working from home (n = 3/22; 14%) described being tired from going to work and needing to enforce public health measures while working with the public.

MENTAL HEALTH

Mental health strain due to the pandemic and measures was mentioned or implied by eight participants (36%). Across most focus groups (n = 4/5; 80%), the inability to socialize and interact with others was discussed as a driving factor to worsening mental health. One participant expressed that non-compliance with measures had not resulted in COVID-19 infection for them, so they felt overall the mental health and wellbeing benefits outweighed the risks, which led to further socialization with small groups.

DISCUSSION

These findings outline several complex and overlapping barriers and facilitators to compliance with COVID-19 public health measures among the sampled adults aged 20 to 39. At the time of this study (December 2020), the narrative surrounding non-compliance among younger adults was that they did not care about COVID-19 or the impact their actions may have on the health of others, and that was the driving force behind the increasing rates of infection (Frketich, 2020). However, this study confirms that there were several other factors at play in the Ontario context which led to non-compliance, including caregiving and social/family pressures. Informed by the experience of participants from this study,



we describe below several strategies to help increase compliance with public health infection control measures for COVID-19 and potentially for other/future infectious diseases as well:

1. Improve consistency and transparency in communication from all levels of government and public health units regarding public health recommendations and restrictions. Timely, clear messaging is needed along with centralized communication channels to make finding the information easier. Additionally, public health leaders must acknowledge that recommendations or restrictions can change over time as new research or information comes to light. This transparency and consistency in communication can help to build trust in the decision makers guiding public health recommendations;
2. Public health infection control messaging should consider unique circumstances and offer specific guidance to individuals who have childcare or caregiving responsibilities, as well as individuals who work from home and/or only live alone or with one other person. These specific circumstances may present unique challenges with compliance and alternative options should be presented (i.e. acknowledgement that some people may require “bubbling” with another household);
3. Individuals may benefit from additional guidance on mitigating potential harm if they choose or need to not comply with the public health recommendations. Many people report that they weigh the risks and decide to selectively comply based on their circumstances, but they may not be aware of the best strategies to mitigate potential harm. Providing easy to understand risk assessment tools and resources may help to mitigate harms from required non-compliance;
4. Programs and policies to address the mental health impact of public health population-level infection control measures should be widely accessible and broadly promoted from the outset of any restrictions.

These recommendations, along with the findings from this study, were presented in January 2021 to the public health leaders in the city where this study was conducted to help inform their ongoing COVID-19 response.

STRENGTH AND LIMITATIONS

This study had several strengths. It is one of the first studies that we know of that was conducted in the Ontario context using qualitative methodologies to explore compliance to public health recommendations among young adults (20 to 39 years). Given the limited evidence surrounding compliance, the findings from this study can be used to inform future research and the development of recommendations related to the COVID-19 pandemic or more broadly related to public health infection control programs. This study was also able to collect information on how the COVID-19 public health recommendations have impacted young adults, which may be useful for future public health initiatives that may want to mitigate the lasting effects of the COVID-19 pandemic. The Project Team ensured that all questions asked during focus groups were open ended and asked in a neutral way to avoid confirmation bias from participants. There were also limitations with this study. First, the findings of this study may not be generalizable beyond the participants included in the study. Given the differences in public health recommendations across jurisdictions, the experiences of the adults recruited in this study may vary from people who resided in other cities within Ontario or more broadly across Canada or globally. The study findings may be limited by selection bias as participants were required to have access to the internet to participant recruitment was done through social media and participants were required to speak English. These requirements may potentially limit the ability to generalize findings to individuals who did not meet these criteria. Social desirability bias may also impact this study as participants may be systematically different than those who did not participate, as they may be more motivated or interested in sharing their experiences. Overall, the perspectives gained from this study helped to better understand the viewpoint of younger adults and can be built upon with further research.

CONCLUSION

Several factors influenced compliance with public health measures during the COVID-19 pandemic for adults 20 to 39 years of age including changing case numbers, the weather, social/family influence, and social norms. The findings from

this research can be used by public health units to inform public health recommendations related to the COVID-19 pandemic and may also be used to inform public health infection control messaging beyond the COVID-19 pandemic. This research adds to the literature on the importance of understanding the target audience, including potential barriers and facilitators they may face, when developing public health messaging and measures specific to infection control.

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AUTHOR CONTRIBUTIONS

Conceptualization: Vanessa De Rubeis, Elise Desjardins, Danielle Charron, Rachel Roy; Data collection: Vanessa De Rubeis, Elise Desjardins, Author D; Analysis: Vanessa De Rubeis, Elise Desjardins; Writing – Original draft: Vanessa De Rubeis, Elise Desjardins, Rachel Roy; Writing - review and editing: Vanessa De Rubeis, Elise Desjardins, Danielle Charron, Rachel Roy.

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