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The relationship between introversion/extroversion and COVID-19 health precautions

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The relationship between introversion/extroversion and COVID-19 health precautions

Abstract

The effects of the COVID-19 pandemic health precautionary measures taken by individuals is an area of great interest in the field of psychology today because of the immense change to social dynamics, safety practices, and interpersonal relationships that occurred. This study looked at 125 U.S. participants and was able to find correlations between introversion/extroversion and the COVID-related precautions taken by individuals. The hypotheses for the study were supported by the data and introverts were more likely to continue taking health precautions throughout the pandemic, while extroverts in the study were less likely to want to continue to take health and safety precautions the longer the pandemic drew on. The question of how the COVID-19 pandemic has specifically affected the way that people interact socially with one another is of increasing interest and future research can answer more questions about the behaviors of people during the COVID-19 pandemic as well as strengthen the data findings of this survey.

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THE RELATIONSHIP BETWEEN INTROVERSION/EXTROVERSION AND COVID-19
HEALTH PRECAUTIONS

By

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ABSTRACT

The effects of the COVID-19 pandemic health precautionary measures taken by individuals is an area of great interest in the field of psychology today because of the immense change to social dynamics, safety practices, and interpersonal relationships that occurred. This study looked at 125 U.S. participants and was able to find correlations between introversion/extroversion and the COVID-related precautions taken by individuals. The hypotheses for the study were supported by the data and introverts were more likely to continue taking health precautions throughout the pandemic, while extroverts in the study were less likely to want to continue to take health and safety precautions the longer the pandemic drew on. The question of how the COVID-19 pandemic has specifically affected the way that people interact socially with one another is of increasing interest and future research can answer more questions about the behaviors of people during the COVID-19 pandemic as well as strengthen the data findings of this survey.

INTRODUCTION

The Coronavirus 2019 (COVID-19) pandemic was a completely unforeseen part of the 21st century and has caused a plethora of outcomes that are still being studied today. The World Health Organization (WHO) officially declared COVID-19 to be a global pandemic in March of 2020 instead of just an outbreak (Jacob et al., 2020, n.d.). When COVID-19 began there was much uncertainty about the ways the virus is transmitted, what symptoms it created, and what needed to be done to prevent transmission from person to person. All of those were issues that needed to be addressed in order to stop the rapid spread of COVID-19 and at the beginning of the pandemic, it became clear that there needed to be an emphasis on personal health precautions and even national ones.

There were state decisions made regarding pandemic related health precautions, but there were also national decisions made about things like the stay at home orders of March 2020 in which U.S. White House officials and health officials urged individual states to make stay at home policies of their own (NBC, 2020, para. 1). Some of the precautions that government agencies recommended were unprecedented for U.S. citizens and have changed the way that the people handle many aspects of their lives. An example of these orders includes the stay at home order which involved only people deemed essential workers still doing their daily jobs. Another example would be the social distancing precautions-keeping 6 feet away from the nearest person- and masking mandates that were established by the Center for Disease Control (CDC) to keep citizens safe and reduce contact between potential virus carriers in public spaces (CDC, n.d., para. 2). One of the most impactful recommended precautions was to not see friends and loved ones for holidays/social gatherings in order to prevent the spread of COVID-19. With the

timeline for the pandemic and its end being extremely uncertain this particular precaution seemed to be one of the hardest for citizens to follow.

The American Psychological Association (APA) has identified that social distancing, quarantining, and people contracting COVID-19 can create “feelings of despair heightened for many individuals in response to unclear, conflicting, and at times harmful guidance from federal, state, and local government officials regarding mitigation efforts (e.g., wearing masks)” (APA, 2020, p. 1). Additionally, the WHO has also released statements that other effects of social distancing measures can be people showing signs of anxiety, anger, stress, agitation, and withdrawal as well as poor mental health outcomes rising in general during the pandemic (WHO as cited in Jacobs et al., 2020, para. 2). These negative health and well-being outcomes are of interest because the mandates for COVID-19 have been different state by state throughout the pandemic and then there have been CDC recommendations that have been made that also have been subject to consistent change. This has brought COVID-19 health precautions down to personal choices that individuals make for themselves in order to stay safe during a very difficult time. With those health and safety choices being personal, some controversy over when to wear a mask or not wear one, when to social distance or gather in larger groups, and when to see friends/loved ones or not due to the ongoing COVID-19 pandemic took place.

Health Precaution Factors

There are a multitude of factors that can impact what decisions someone made during the COVID-19 pandemic, especially when it came to health-related precautions. One of the most important factors is pre-existing health conditions because having certain conditions can increase your risk of getting COVID-19 and the severity of the virus by a large margin. Additionally,

there are other parts of the population that are at a higher risk as well such as: “Black, Indigenous and People of Color (BIPOC), older adults, those with certain chronic health conditions, front-line providers, and other essential workers” (APA, 2020, p. 1) The people who fit into these populations and have a higher risk of getting COVID-19 may have taken different precautions or been more cautious in order to not be exposed to the virus. Other things that may impact someone’s health precautions are having a relative who is a high-risk individual and wanting to protect them while living with them or seeing them. Another scenario in which someone may take different precautions is if they have been experiencing the drain of the health precautions for a long time and decide later in the pandemic to change the precautions they take. There are also some people who do not believe that the virus is real and choose to take very few or no precautions unless forced to by the state, government, or businesses. All of these can be a part of the plethora of motivations that goes into what precautions or lack of precautions individuals used during the COVID-19 pandemic.

Another factor that could impact the health precautions that someone takes is if someone is a high self-monitor or high in public self-consciousness. Someone who self-monitors pays attention to their actions and how their behaviors mix with the behaviors of others. When someone has this skill they are usually quite aware of societal norms and boundaries, as well as they try to avoid committing social taboos. Public self-consciousness can be described as “refrain from self-centered behavior that may be criticized by the group or use expectations of others and norms of the field as their behavioral standards” (Hatabu, 2020, p. 13). That being said, the people in society who are high self-monitors and who ascribe to have high public self-consciousness would most likely want to follow what other people around them are doing as far as COVID-19 precautions go. In Hatabu’s study of Japanese college students, it was found

that people who fit into the self-monitoring/high public self-consciousness identity “tend to violate the stay-at-home order when invited by others because they focus on how others see them” (Hatabu, 2020, p. 13). So people wanting to fit in with their friends or do what they see other people around them participating in could influence COVID-19 related precautions. This is because sometimes people around them may not be making the safest choices and influence that individual to do the same.

Personality Traits: Introversion/Extroversion

The question of whether or not personality traits like introversion and extroversion could become an interplay with those health precautions taken became a question of great interest for this research. These two traits can be summarized by researchers Eysenck & Chan by saying that “extroverts prefer to get energy from outside sources or outer world, but introverts prefer solitary activities and the inner world of ideas as the source of their energy” (as cited in Boroujeni et al., 2015, p. 213). With those definitions in mind, the differences in how someone thinks and behaves as more of an extrovert or an introvert could affect what safety precautions they choose to take. Researchers looking at the impact of personality types on writing ability found that Myers-Briggs personality test findings “state that introverts mostly focus their energy inward; they tend to consider and contemplate. More cautious about the outer world; they anticipate and reflect before becoming involved in action to avoid errors” (Boroujeni et al., 2015, p. 213). What this indicates is that introverts may have been more prepared for the pandemic because of their nature of being more cautious about the outside world. “Individual differences in characteristic patterns of thinking, feelings, behaviors, and emotions could contribute to people’s behaviors during a pandemic” (Shokrkon & Nicoladis, 2021, para. 3). The reason that certain characteristics of introversion and extroversion could contribute to COVID-19 related health

precautions overall is that certain parts of personalities such as those can shape how you view the world.

If you are someone who is more extroverted and places more of an emphasis on spending time with people rather than on being alone, then you would most likely spend time with more people or perhaps in larger groups of people for longer periods of time than an introvert might. “Higher score in extroversion trait has been associated with better perceived health, well-being, resilience, positive affect, and positive mental health” (Shokrkon & Nicoladis, 2021, para. 5). This information comes from a study that examined the Big 5 personality trait scores otherwise known as the five-factor model (FFM) and those were their findings about extroverts in the pre-pandemic from that personality test. The fact that extraversion was associated with more positive health outcomes at that time is not reflective of the pandemic because the precautions that U.S. citizens were asked to take quite frankly interrupted their ability to socialize and the way that people socialize with one another. Another statement that those researchers made about extroverts during the pandemic discussed how the daily life changes that occurred during the pandemic with social distancing might feel very unusual to those extroverted individuals because they typically gather their energy from crowds/social interactions and even seek out other people in times of stress (Shokrkon & Nicoladis, 2021, para. 6). Extroverts could not necessarily seek out others though during the extreme mental stress of the pandemic unless it became a more online format of communication.

On the opposite end of that research, if you are an introvert you would most likely get drained by spending too much time with too many people or just spending too much time with people in general because you enjoy your downtime by yourself. That research team also found that pre-pandemic introverts “tend to have fewer social interactions than extroverts, experience

more psychological problems in general, experience more intense emotions and struggles in regulating their emotions, and have more adjustment problems”(Shokrkon & Nicoladis, 2021, para. 5). So, because introverted people seem to have more of a tendency to retreat into themselves that did show to have an effect on their mental health, however, the mental health of individuals will not be discussed within the capacity of this particular survey. The reason being that this research looked more at identifying introverts/extroverts and seeing if correlations exist between that and their health precautions taken rather than the variable of the mental health of those individuals.

What can be extrapolated from the above information about introverts and extroverts is that extroverts' behaviors pre-pandemic most likely involved more social gatherings or gathering more frequently whereas introverts did not and gatherings specifically became a key part of exposure to COVID-19 during the pandemic. The research question then specifically explored here through this study is whether or not being a more introverted or more extroverted person could influence the COVID-19 related health precautions that someone takes. The hypotheses of the study were that people who identified as more extroverted will have been taking fewer pandemic-related precautions the longer that the pandemic has continued on. Furthermore, people who identified as more introverted will have had an easier time following COVID guidelines and will have been more likely to follow them.

METHODS

Participants

The data was collected in February of 2022 and is reflective of very current data at this time about the pandemic. There were 125 participants in this survey about the Impact of

COVID-19 and there were multiple members of the research team that contributed to the 200 question survey. The number of participants (N) will be used for all the calculations made as well which will be discussed later. The mean age of the participants was 37.12 and they were 82% caucasian. The gender of participants was fairly split with 47.6% being males, 49.2% being female, and 3.2% being nonbinary or otherwise specified folks.

Data Collection and Analysis

Participants were asked to respond to survey questions with this prompt: “Answer the following statements on a scale of 1-5 with 1 being that you disagree strongly and 5 being that you agree strongly. A 3 would indicate that you are indifferent to the statement.” On that note, a scale was used to assist with identifying whether someone was more introverted or extroverted. The scale used was the Multidimensional Introversion/Extroversion Scale (MIES) and it utilizes pointed questions that allow researchers to identify whether someone leans more towards an extrovert or an introvert. Individuals who identify as something in between or as ambiverts-the term for someone who exhibits the traits of both introverts and extroverts- are not accounted for here and that is a limit of this study. Some of the questions from the scale that I used are things like:

- “I prefer to eat alone.”
- “I want a huge social circle.”
- “I keep in the background.”

Those were questions selected from the MIES that were felt to represent the survey accurately and the complete list of questions used is reflected at the end of this document and labeled as MIES Questions. Also, I had other questions that I asked of my own creation in order

to see if there were correlations that could be drawn between introversion/extraversion and willingness to follow Covid guidelines. Here are some sample questions that I asked:

- “Throughout the COVID-19 pandemic I have followed CDC guidelines.”
- “I felt the need to see friends and loved ones in 2021 during the COVID-19 pandemic.”
- And “The longer the COVID-19 pandemic went on, the more I wanted to resume attending social gatherings in groups.”

This was a correlational study and therefore items are calculated to see if one of the participants' responses can be correlated with another item. This study will look at the most pertinent study items that have been correlated with each other and those data results will be explained. Participants were asked about how closely they followed COVID guidelines from the CDC and the state separately. Correlations were calculated among study items and then it was assessed whether those correlations were significant or not. The r-value for the data that you will see used represents the correlation coefficient and that marks how closely the two variables are related in each case. The P-value that you see is the probability that the correlation from the sample data occurred by chance. In order to show significance, the p-value needs to be below .05. These two letters will be used to represent those respective statistical calculations throughout this document.

Procedures

The current study was conducted using a study participant recruitment website called Prolific which allows researchers to integrate their survey items onto the website and let people from all over the U.S. complete the survey over the course of a few days. The research presented here was part of a larger study where participants were asked over 200 survey questions and

multiple members of a research team collaborated to explore their own separate research interests. Participants were paid \$3.25 for their active participation in the survey itself and prior to the survey going live on the Prolific site, IRB approval was received. A full list of the survey questions asked for this research thesis is included after the references of this document.

RESULTS

The results for extroversion are going to be discussed first because they are marginally correlated and extroversion and introversion exist on a continuum therefore the inverse of all the information about extroversion is true for introverts. Though some of these correlations do not quite reach the conventional level of significance which occurs when p is less than .05, we felt that, with ongoing data collection, these results might strengthen, so they are mentioned at this time. For this section of research, participants were asked to respond to the statements:

- “Throughout the COVID-19 pandemic I have followed CDC guidelines.”
- “Throughout the COVID-19 pandemic, I have followed state guidelines in regards to personal protection (wearing a mask in businesses, social distancing, etc.).”

Extraversion was marginally correlated with following CDC guidelines in general ($r = -.158, p = .078$). This means that the more extraverted someone is, the less they reported following CDC guidelines in general. Another correlation was following state guidelines in general ($r = -.143, p = .100$). This data shows that extroverted people reported following state guidelines, in general, less..

2020-2021 Behavioral Questions

The time element also becomes added in with these correlations because participants were asked separately about their COVID-19 health and safety precautions for the years of 2020 and 2021 separately. When asked about those two years, participants gave answers that showed that extraverted people did follow guidelines differently in those years. The data that will be discussed next is in relation to a question that asked participants to respond to the statements:

- “In 2020, I always followed state/CDC guidelines regarding the COVID-19 pandemic.”
- “In 2021, I always followed state/CDC guidelines regarding the COVID-19 pandemic.”

The correlation among extraversion and "always followed guidelines in 2020" was ($r = -.164$, $p = .067$). This is marginally significant because it shows that extraverts were less likely to follow guidelines in 2020. The correlation becomes significant, not just marginally when you look at extraversion and "always followed guidelines in 2021" ($r = -.182$, $p = .042$). What that added data with the time difference of the two years shows is that the more extraverted someone is, the less likely they were to always follow guidelines in 2021.

When it came down to questions for extraverts that involved seeing their friends and loved ones, there were other marginal correlations as well. The questions asked for this particular section were:

- “I felt the need to see friends and loved ones in 2020 during the COVID-19 pandemic.”
- “I felt the need to see friends and loved ones in 2021 during the COVID-19 pandemic.”

The results were that extraversion and "felt need to see friends and loved ones in 2020" created a correlation coefficient of ($r = .207, p = .021$). This means that there was a marginally significant correlation between extroverts wanting to see their friends and loved ones in 2020. Then, for extraversion and "felt need to see friends and loved ones in 2021" there was a correlation of ($r = .227, p = .011$) Again, this relationship can be shown to have strengthened a bit over time and this correlation highlights that extroverted people wanted to see their friends and loved ones even more by 2021.

Non-Correlated Items

There were a few items in the survey that could not be correlated with extraversion specifically and those items were a surprise. The questions asked from the survey for this portion were:

- “The longer the COVID-19 pandemic went on, the more resistant I was to following state/CDC guidelines.”
- “It bothered me to not spend time with loved ones and not go to social gatherings during the COVID-19 pandemic.”

For the question related to it being hard to follow guidelines as the pandemic wore on, it was not significant because the data showed that ($r = .142, p = .113$) when it was attempted to be correlated with extraversion. Additionally, for the question related to it bothering people when they couldn't see their friends/loved ones, the data showed that when correlated with extraversion that ($r = .117, p = .194$) and that data shows that it was not significant. The remaining correlation that was marginally significant in the survey was related to a study item that said:

- “The longer the COVID-19 pandemic went on, the more I wanted to resume attending social gatherings in groups”

So, wanting to resume social gatherings as pandemic wore on correlated with extraversion and was marginally significant ($r = .156$, $p = .081$). This indicates that the longer the pandemic drew on, the more that extroverts wanted to return to being able to have social gatherings. As stated at the beginning of this section, introversion and extroversion exist upon a continuum and the opposite is true for the results of our study about the people who were found to be more introverted.

DISCUSSION

The results of the survey yielded interesting correlations that do have implications on everyday life in the U.S. during the time of the height of the COVID-19 pandemic in 2020-2021. What the research tentatively tells us is that it is possible extroverts were creating more of a risk for themselves and others of contracting COVID due to their safety practices. This being because of the marginally correlated data that shows a correlation between extraversion and taking fewer COVID-19 safety measures the longer the pandemic went on. We see this also when looking at the marginal correlation between extraversion and wanting to see loved ones and friends more. So extroverts that participated in this survey were more likely to use precautions less and want to see loved ones more. A study done about Japanese college students in 2020 yielded results that support this and found that:

“The higher the score of extroversion, the higher the coronavirus knowledge, and the more self-defense measures implemented. However, there was a high tendency to go out with others. Therefore, the character of extroversion has the useful side of knowledge

acquisition and self-defense, and the opposite effect of not strictly following the stay-at-home order.” (Hatabu, 2020, p. 13)

That study supports that extroverts were likely to still try to go out with others (not following recommended COVID-19 precautions) and identified as gathering socially. The interesting part of that study’s support is that they not only supported the research presented here, but also found that extroverts were quite educated about COVID-19, but still chose to spend time with their friends and loved ones. That seems remarkable because extroverts were educated about the risks but still decided to potentially risk their health and safety seemingly because as is supported by the research in this thesis, it is in the supposed nature of extroverts to want to see other people and gather their energy through those group dynamics.

Also, as far as gatherings go, introverted people were more likely to follow the federal and state guidelines and not be a part of larger gatherings, potentially keeping themselves and their loved ones healthier. This is because of the introversion/extraversion continuum and how the results for introverts are simply the inverse of our results for extroverts. The introverts or rather those identified as introverts through the use of the MIES scale had correlations with wanting to follow COVID-19 guidelines more closely throughout the COVID-19 pandemic and also were less inclined to want to see friends/loved ones during the pandemic. Overall, these correlations, even though only marginally correlated, show the differences that can be found in introvert and extrovert behaviors throughout the COVID-19 pandemic.

The findings here do support the hypotheses presented at the beginning because there were marginally significant correlations found between extroversion and fewer health precautions taken over the two-year time period. Extroverts were more likely to want to see

friends and loved ones and to also want to gather more socially by 2021. Additionally, there were also marginally significant correlations found between introversion and taking more precautions even through multiple years of the pandemic. Being the counterpart to extroversion, introverts were more likely to continue taking COVID-19 related safety measures by social distancing and not seeing friends and loved ones farther into the pandemic.

Limitations

One item to first and foremost keep in mind about all the correlations presented here is the saying that correlation does not equal causation. What that boils down to is that we cannot definitively attribute correlations to being the cause or root of the behavior, we can only postulate on that behavior. This is because humans are complex and we all have our own reasons and motivations for exhibiting the behaviors that we do that are unique to our own circumstances. With that being said, there are postulations that we can make about the data presented and educated guesses if you will about the correlations and what they might mean about our society.

There are a few reasons that may prompt individuals to not follow health precautions as closely as they should, especially as the pandemic wore on. One explanation of this behavior could be that people, especially during the height of the pandemic in the years of 2020-2021, were seeing news reports about people breaking the social distancing guidelines more and more (Reicher & Drury, 2021, para. 7). Seeing this could cause some people to think that breaking the rules was becoming the new norm because that was being discussed in the news instead of the people who were staying at home and maintaining the safety protocols. Another thing that could influence people to follow health precautions as closely is pandemic fatigue. This term being

able to be defined as a phenomenon that is not directly observable, but is a “decrease in adherence to health-protective behaviors” and is said by the WHO to be “an increasing number of people not sufficiently following recommendations and restrictions, [and] decreasing their effort to keep themselves informed about the pandemic” (Lilleholt, 2020, p. 3). This phenomenon could also contribute to the precautions or lack thereof because people can grow tired of staying away from those they care about and of taking precautions that are so different from the time before the pandemic and can be considered to be very taxing.

One of the limitations of the survey itself is that the ambivert personality type is not accounted for, as discussed previously. There is not enough research done on that personality, nor was there a scale that could be used to easily identify that personality type in study participants. Another limitation would be that the survey sample was not very large or diverse for the U.S. population, so a larger sample size would be beneficial to expand the research and continue to show the correlations among the study items. With that being done, the survey could continue over time and yield more accurate and potentially more strongly correlated data.

Future Studies

It could be extremely rewarding for future studies and research to dive more deeply into specific precautions in the specific years. For example, a survey item could be more specified to say “I always followed the masking guidelines in 2020” or “I always followed the social distancing rule of 6 feet in 2020”. Attitudes about the pandemic are ever-changing and since this survey will be taken retroactively that could cause some biased self-reporting, but the specificity of the items on the survey could be helpful nonetheless. There are some other interesting topics to come out of this research that can be explored further by other studies. One of them is, Did

introverts feel more isolated? Since introverts in this study were following guidelines more closely and staying away from other people more, did they become more isolated than extroverts?

Another research question or topic could be: were extroverts more likely to get COVID-19? Since they were potentially more active social activities, did that have a negative recourse to their health by exposing them to COVID-19? The last and perhaps the most interesting question that could be applied to psychology is: did gathering more socially and seeing loved ones help the mental health of extroverts? It is discussed in the introduction section how much of an impairment not seeing those that we care about can be and what it could do to our mental health. The conversation of technology during the pandemic and how it has kept people in direct contact with one another is a completely different and more complex issue in the world of psychology and how it has affected mental health. It could still be used as supplemental for future research by looking at how that use of technology- Zoom, Netflix Party, group Facetimes, and etc.- allowed people to interact with one another during the COVID-19 pandemic and how that influences their want/need to see friends, loved ones, and to gather socially.

Conclusion

Future studies can be beneficial to strengthen the results of the research presented here and would shine more of a light on the interesting behaviors that people have demonstrated throughout the COVID-19 pandemic. There are so many factors that go into our behavior as human beings and there are some important findings present here that help us to begin to get a sense of what behaviors people of certain personality types have been exhibiting. One part of the hypothesis about introverts and extroverts that cannot be proved is whether it was easier or

harder for them to follow the safety guidelines because this comes down to personal feelings and it was hard for seemingly almost everyone to follow these precautions/guidelines at some point. This is because people lost jobs, were stuck at home, were isolated in quarantine, contracted COVID-19, lost family members/friends, were unable to work/laid off, were depressed, sad, lonely, and many other consequences that the pandemic has brought in and of itself. There is and has been no right or wrong or perfect way to handle the pandemic though. Many would argue that everyone should know the risks and take their safety into their own hands through their safety measures. Additionally, the pandemic has been ever-changing and the necessary precautions have been revised over and over again by the CDC and by other health officials, which also can contribute to how often people take protective measures and there are also now multiple vaccines to protect against COVID-19. With the vaccines in place and boosters being approved more frequently, hopefully, this unprecedented part of the 21st century will soon be coming to a close, and research like this will be important only to remember how things used to be during the pandemic.

Survey Questions

Kalie

Areas of Study: Introversion/extroversion and COVID safety precautions taken

Research Question: Did the level of extroversion or introversion of a person contribute to whether they abided by recommended CDC COVID guidelines.

Hypothesis: My hypothesis is that people who identify as more extroverted will have been taking fewer pandemic-related precautions the longer that the pandemic has continued on. Furthermore, I hypothesize that people who identify as more introverted will have had an easier time following COVID guidelines and will have been more likely to follow them.

Survey Questions

Answer the following statements on a scale of 1-5 with 1 being that you disagree strongly and 5 being that you agree strongly. A 3 would indicate that you are indifferent to the statement.

MIES Questions

- 1.I talk to a lot of different people at parties.
- 2.I don't talk a lot.
- 3.I am quiet around strangers.
- 4.I keep in the background.
- 5.I start conversations.
- 6.I want a huge social circle.

- 7.I can keep a conversation going with anyone about anything.
- 8.I prefer to socialize 1 on 1, than with a group.
- 9.I naturally emerge as a leader.
- 10.I am not really interested in others.
- 11.I have a strong personality.
- 12.I find it very hard to tell people I find them attractive.
- 13.I spend hours alone with my hobbies.
- 14.I reveal little about myself.
- 15.I prefer to eat alone.
- 16.I have to psych myself up before I am brave enough to make a phone call.
- 17.I feel comfortable around people.
- 18.I don't mind being the center of attention.

My Questions

- 19.I am more Extroverted than introverted.
- 20.I am more introverted than extroverted.
- 21.Throughout the COVID-19 pandemic I have followed CDC guidelines.
- 22.Throughout the COVID-19 pandemic I have followed state guidelines in regards to personal protection (wearing a mask in businesses, social distancing, etc.)
- 23.In 2020 I always followed state/CDC guidelines regarding the COVID-19 pandemic.
- 24.In 2021 I always followed state/CDC guidelines regarding the COVID-19 pandemic.
25. I felt the need to see friends and loved ones in 2020 during the COVID-19 pandemic.
26. I felt the need to see friends and loved ones in 2021 during the COVID-19 pandemic.

27. The longer the COVID-19 pandemic went on, the more resistant I was to following state/CDC guidelines.

28. The longer the COVID-19 pandemic went on, the more I wanted to resume attending social gatherings in groups.

29. It bothered me to not spend time with loved ones and not go to social gatherings during the COVID-19 pandemic.

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