HIGH SCHOOL EDITION
Journal of Student Research
Volume 11 Issue 4 (2022)

Communication Change Throughout the Pandemic from Students' Perspectives

Isabelle Godfrey[1], Sarah Heilbronner[#] and Hilarie Roberts[#]

[1] Silver Creek High School, USA
[#]Advisor

ABSTRACT

Recent research in social science has focused on family interactions, but there is a gap concerning the impact of the pandemic on family communication. Addressing this gap could reveal how the pandemic has impacted family communication and interaction. The goal of this study was to identify communication patterns among high school students and their parents. The research question is: How has family communication changed throughout the pandemic for students in high school and their parents that worked at home during the height of the pandemic? The question was addressed by a study analyzing data from randomly distributed questionnaires with a paired sample *t*-test to determine whether the difference in communication dimensions from the RFCP (conversation-orientation and conformity-orientation) from the height of the pandemic to the time of this study was significant. This study concluded that there was a statistically significant decrease in conformity-orientation from the height of the pandemic to the time of the study. However, this study is representative of only the high school that was studied, relied largely on participants' self-report of memories of the pandemic, and could have been heavily influenced by current events an individual was experiencing. Parent data is also only descriptive. This study did reveal that high school students' conformity-orientation has decreased throughout the pandemic for students in high school, and has revealed that as COVID-19 restrictions eased after the height of the pandemic, family values of sharing ideas, beliefs, and values decreased.

Introduction

The COVID-19 Pandemic

The COVID-19 pandemic is one of the most impactful events of the 21st century and has changed lives globally. Since its rapid spread in late 2019, it has modified the way people work and interact. When it began, individuals were limited to their households to socialize, and extended family couldn't be seen due to social distancing guidelines, which increased feelings of isolation. The public was also often informed of the mental-health risk of isolation due to shutdowns and quarantines. The pandemic is ongoing at the time of this study, and new strains and mutations are being discovered. This study explored how the COVID-19 pandemic has affected family communication.

COVID-19's Impact on Families

Working from home while children were learning at home was a sudden change that parents faced. During the first shutdowns in the spring of 2020, essential workers—those who provide necessary services to a community and its infrastructure (Hultin, 2021)—continued to travel to work, while others worked remotely. According to Kim Parker et al. (2020), as of October 2020, 71 percent of adults were working from home, and 33 percent of

working parents with children under eighteen reported that it was more difficult to balance work and family life, as compared to before the pandemic. Rachel Sheffield, a senior policy advisor of the Joint Economic Committee (JEC), analyzed the results of the 2020 American Family Survey. Similar to Parker et al., Sheffield found that "a substantial minority report struggling to find a balance between home and work responsibilities" (Sheffield, 2020, para. 8). Balancing work and family life was one of the many difficulties parents faced at the beginning of the pandemic.

Parents also struggled with financial hardship and difficulty educating their children. A study by the National Public Radio (NPR), the Robert Wood Johnson Foundation, and the Harvard School of Public Health between August and September of 2020 states that "44 percent of households with children under 18 years old report facing serious financial problems in the last few months" (p. 1). Expanding on Harvard's findings, Sheffield finds that families that experienced a financial crisis experienced increased stress in their relationships (Sheffield, 2020). This suggests that the households with children that experienced a financial crisis dealt with large amounts of stress among family members. In addition, many parents reported struggling to keep up with their work because they were helping their children with remote learning. NPR reports that "69 percent of households with children in K-12 last school year say their children fell behind in learning because of the COVID-19 outbreak" (National Public Radio, 2021, p. 3). Furthermore, the American Academy of Pediatrics (2021) finds that almost half of surveyed families agreed that helping children with their education had increased stress and tension in the family. As work and family environments came together due to remote learning and working, many parents struggled with helping educate their children, balancing work and family life, dealing with financial issues, and dealing with increased stress.

The Circumplex Model and FACES IV

To study relationships, researchers have created family typologies based on a family's characteristics. Barnes and Olson (1985) identified the most important aspects of a relationship as cohesion, flexibility, and communication. Cohesion is how family systems balance their separateness versus their togetherness. Flexibility is how systems balance stability versus change (Barnes & Olson, 1985). The Circumplex Model of Marital and Family Systems uses these two dimensions to assign a family type. Communication facilitates the movement of cohesion and flexibility and is not included in the model because it is a facilitating dimension. The Circumplex Model hypothesizes that balanced systems are more stable than unbalanced systems. Balanced systems, or families, tend to have fewer extremes and have good communication, flexibility, and cohesion, whereas unbalanced systems fall into the extremes and don't communicate as well. As seen in Figure 1, balanced systems fall into the central white typologies, whereas the most unbalanced systems are the black typologies in the corners of the model. The Family Adaptability and Cohesion Evaluation Scale (FACES IV) scale, a self-report instrument, measures family cohesion and flexibility on a scale to assign one of sixteen family typologies according to the Circumplex Model.

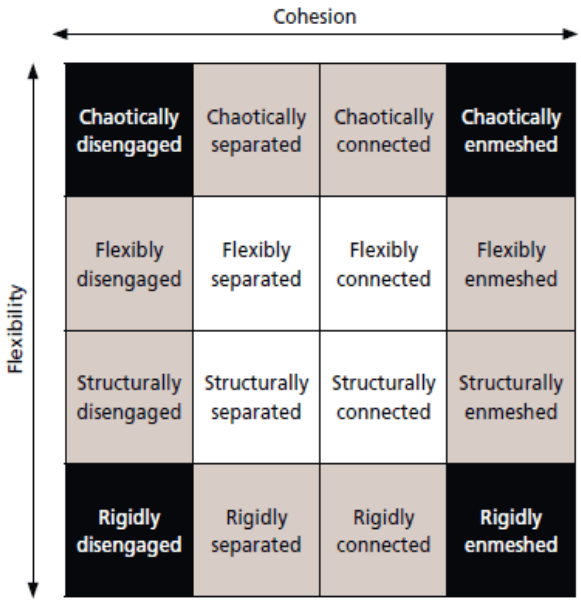

Figure 1. The Circumplex Model. From *The Olson Circumplex Model: A systemic approach to couple and family relationships* by C. S., and Dr. J. B. Australian Psychological Society, 2021, (https://psychology.org.au/publications/inpsych/2011/february /sanders). Copyright 2022 by The Australian Psychological Society Limited.

The Circumplex Model (Figure 1) determines that moderate flexibility and cohesion are best and that too much or too little is damaging to relationships (Olson, 2000). In their study of parent-adolescent communication, Barnes and Olson (1985) found that adolescents have more negative views of communication levels compared to their parents and that mothers perceive better communication than fathers. This confirmed their hypothesis that balanced families had more positive communication than extreme families and that higher communication levels indicate higher cohesion and flexibility in a family. Additionally, in times of stress, balanced systems change systems to adapt, and unbalanced systems often stay the same (Olson, 2000). This means that during stressful events, balanced families will adjust their structure and how they interact, changing their levels of cohesion, flexibility, and communication, thus changing their typology.

Family Communication Patterns

Though it is not included in the Circumplex Model, the dimension of communication amongst family members can provide insight into many aspects of a relationship. According to Ascan Koerner and Mary Anne Fitzpatrick (2002b), family communication provides insight into a family's structure, patterns of communication, and familial relationship health. The Revised Family Communication Patterns Scale (RFCP) identifies the two dimensions of communication as conversation-orientation and conformity-orientation.

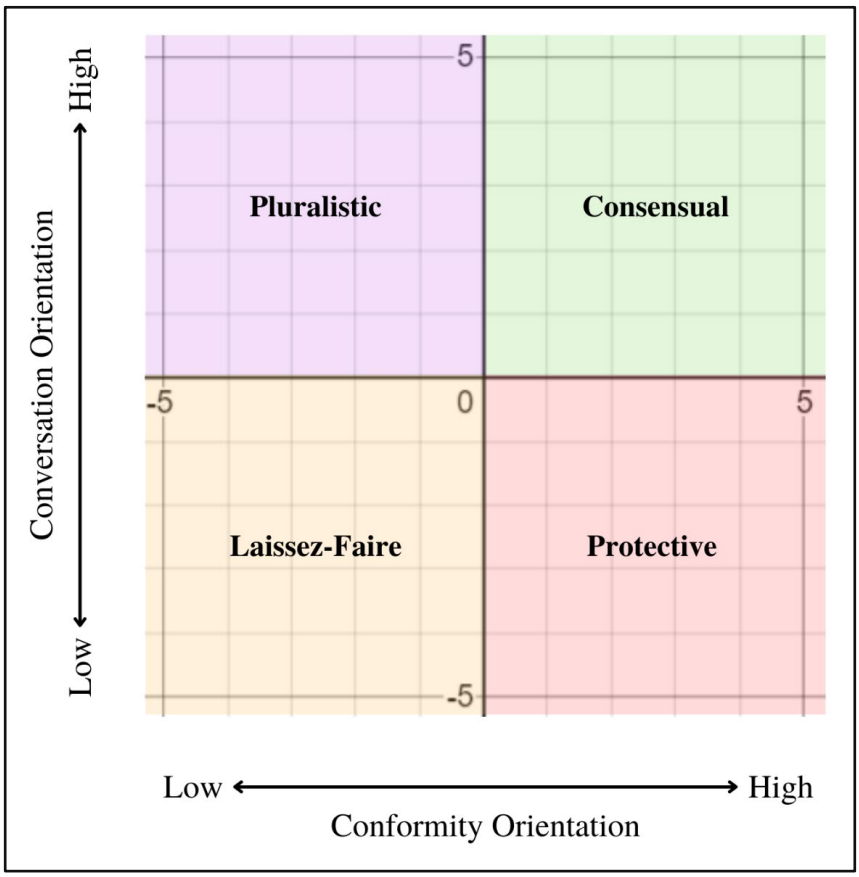

Figure 2. RFCP Model.

Conversation-orientation is "the degree to which families create a climate in which all family members are encouraged to participate in unrestrained interactions about a wide array of topics." Conformity-orientation is described as "the degree to which family communication stresses a climate of homogeneity of attitudes, values, and beliefs" (Koerner & Fitzpatrick, 2002b, p. 4). Through their analysis of multiple studies that use the RFCP, Koerner and Fitzpatrick find negative correlations between conversation- and conformity-orientation. Like the Circumplex Model, the RFCP also produces family types, as seen in Figure 2.

Table 1. RFCP Family Typologies.

Family Type	Conversation-Orientation	Conformity-Orientation	Characteristics
Pluralistic	High	Low	Communication is open and involves all family members. Children of these families learn the importance of communication as well as how to be independent, which aids in decision-making.

Family Type	Conversation-Orientation	Conformity-Orientation	Characteristics
Consensual	High	High	Communication in these families has a pressure to agree with ideals set up by the parents and an interest in open discussion. Parents of these families believe they should make all decisions, and to relieve this tension, place an emphasis on hearing children's ideas and beliefs, and sharing their own in hopes of their children sharing the same ideas and beliefs.
Protective	Low	High	Communication in these families is characterized by an emphasis on obedience and maintaining the family hierarchy with little open discussion. Children in these families don't value communication and are expected to not conflict with the family due to the emphasis placed on sharing ideas and values. This makes it difficult for these families to resolve conflicts.
Laissez-Faire	Low	Low	Communication in these families is limited, as the parents place no emphasis on communicating with their children or sharing an interest in values. These families avoid conflict, and children don't learn to value communication. Also, the lack of sharing beliefs and attitudes among parents and children leads a child to question the decisions they make.

Note. Adapted from "Understanding family communication patterns and family functioning: The roles of conversation orientation and conformity orientation," by A. F. Koerner and M. A. Fitzpatrick, 2002, *Annals of the International Communication Association, 26*(1), p. 44-45.

The four family typologies from the RFCP are pluralistic, consensual, laissez-faire, and protective (Table 1). These typologies can explain current behavior, predict behavior in future relationships, show how individuals perceive communication from others, predict the chance of having depression or anxiety, and predict how resilient they are to negative experiences.

Parents play a large role in determining their family's typology based on how they communicate with each other. Paul Schrodt and Jenna Shimkowski (2015) looked at the relationship between conversation- and conformity-orientation and the perceptions of co-parental communication using the RFCP instrument. Co-parental communication is the interaction pattern between parents to support a child. Good co-parental communication involves supporting partners, teamwork, collaboration, and complementary communication. Bad co-parental communication involves undermining the other and being competitive, cold, or angry with each other. Schrodt and Shimkowski found that conversation-orientation can predict good and bad co-parental communication and that parents who create an environment with high conversation-orientation are more likely to interact positively and support each other. Conformity-orientation was negatively correlated with conversation-orientation, and so families with high conformity-orientation and high conflict can cause children to have a more negative perception of parent communication.

Increased interaction among parents and children improves their relationships and their communication levels. A study by Richard Weissbourd et al. (2020) found that relationships among fathers and their children improved drastically throughout the pandemic. For example, fathers and children learned about each other more and had deeper conversations. Sema Öngören (2021) also looks at parent-child relationships during the pandemic. Like Sheffield (2020) and NPR (2021), she finds that families struggled to teach their preschool-aged children at home and that parents struggled to balance work and family life. Similar to Weissbourd et al. (2020), Öngören found that participants noticed an increase in the time spent together as a family and that activities improved communication.

Studies have looked at relationships, communication, and the COVID-19 pandemic separately, but how communication in familial relationships changed throughout the pandemic is unknown. Weissbourd found that fathers' relationships with their children were improving. Öngören's study looked at parent-child communication. Schrodt and Shimkowski look at the communication dimensions and children's perceptions of their parents. It is unknown how the pandemic affected parent-child communication and how children perceive this.

There is a problem with the understanding of the impact of COVID-19 on parent-child relationships with parents that worked remotely during the pandemic. This problem has negatively affected our ability to understand how parents working at home have impacted children because work environments have been moved to the home. This creates little separation between stressful environments. This study aims to look at high school students and their parents that worked at home during the height of the pandemic, and how their communication has changed throughout it. It also aims to focus on children's perspectives on communication as previous studies mention the parents' thoughts but not the children's.

This study uses the RFCP instrument to determine how communication dimensions changed throughout the pandemic. Research suggests that despite the challenges families have faced, many have developed stronger relationships with each other. The researcher hypothesizes that conversation-orientation will have increased throughout the pandemic as families would value communication and input after going through a stressful event together. It was also hypothesized that parents would take more control of their families during the pandemic, thus increasing conformity-orientation. It is also unknown what effect the pandemic has had on families' RFCP typologies. According to Olson's (2000) conclusions, balanced families change and adapt during a stressful event, and the COVID-19 pandemic is considered by many to be a traumatic and stressful event, indicating that family typologies likely changed over time. This study poses the question: "How has communication changed for high school students and their parents that worked at home during the height of the pandemic?"

Method

Theoretical Design

This study was exploratory and used inductive reasoning, taking a mixed-method approach that relied on primary conceptual quantitative data. Conceptual qualitative data were gathered and converted to quantitative data through the use of a Likert scale, in which participants were asked to quantify their communication levels. Phenomenology was also analyzed as participants' feelings and thoughts were transformed into quantitative data in an attempt to make sense of the experiences of participants regarding COVID-19. Data was collected one-time in a field setting, and the data were retrospective, as participants were asked about their communication levels during the height of the pandemic, and their current communication levels.

Population and Sample

This study focused on the communication levels of high school students and their parents that worked at home during the height of the pandemic. High school students were the subject of interest because the effects of the COVID-19 pandemic on their communication are unknown. A global pandemic that shut down schools is likely to have had a large impact on students in high school. Also, if a parent worked at home, the student likely learned from home, and this mixing of work and school environments likely had an impact on communication, which this study measured. High school students were chosen over elementary school or middle school students as they are more mature and therefore would be the best at interpreting interactions in a family. To qualify for the study, high school students had to have at least one parent that worked at home during the height of the pandemic.

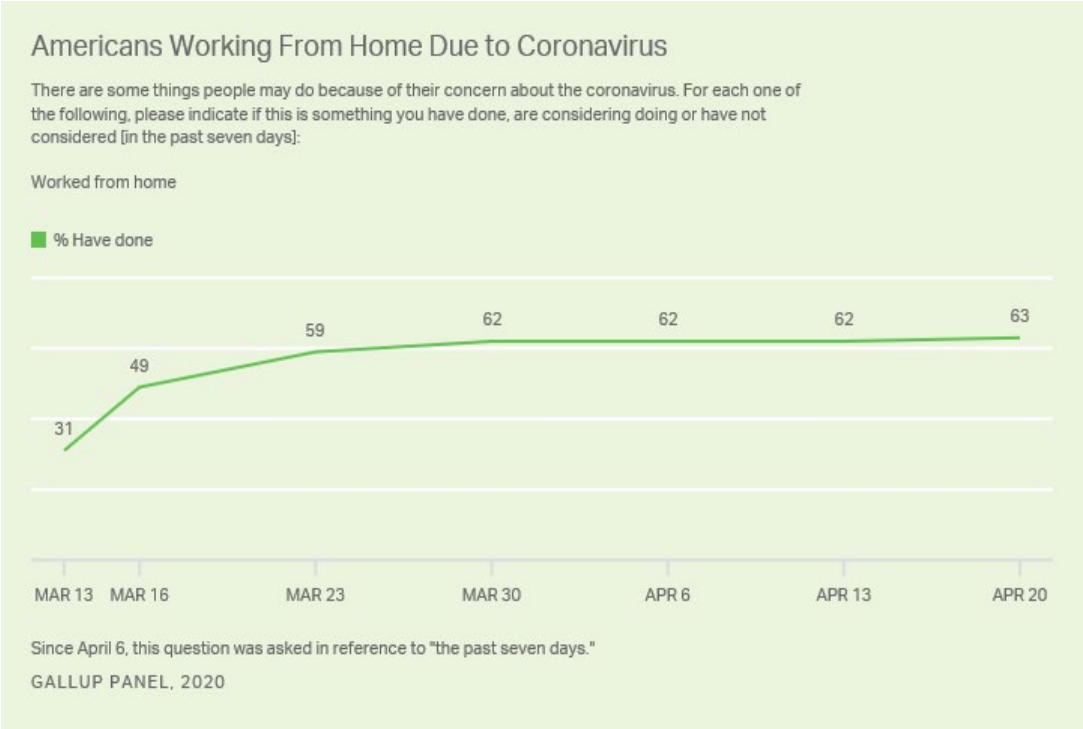

Figure 3. Americans Working From Home Due to Coronavirus, March to April 2020. From *Reviewing Remote Work in the U.S. Under COVID-19* by A. Hickman and L. Saad, 2020 (https://news.gallup.com/poll/311375/reviewing-remote-work-covid.aspx). Copyright 2022 by Gallup Inc.

According to an article by Lydia Saad and Adam Hickman (2020), the percentage of Americans working from home due to the pandemic drastically increased during March as seen in Figure 3.

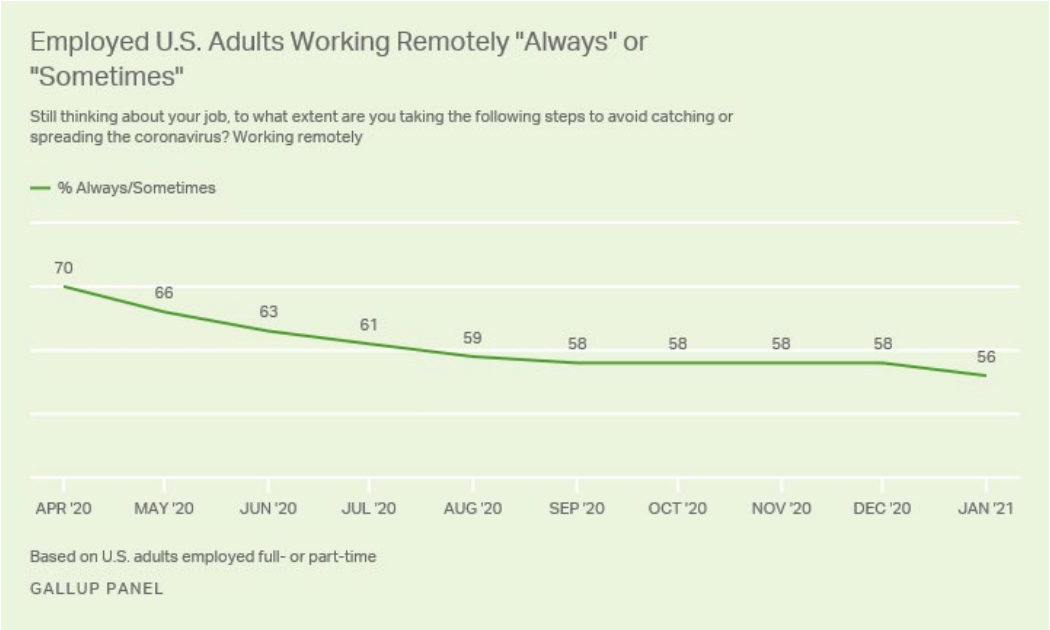

Figure 4. Employed U.S. Adults Working Remotely 'Always' or 'Sometimes' From April 2020 to January 2021. From *Majority of U.S. Workers Continue to Punch In Virtually* by A. Hickman and L. Saad, 2021 (https://news.gallup.com/poll/329501/majority-workers-continue-punch-virtually.aspx). Copyright 2022 by Gallup Inc.

In January 2021, the percentage of workers who reported that they were remotely working "always" or "part of the time" declined from the seventy percent shown in April of 2020 (Saad & Hickman, 2021), as seen in Figure 4. Therefore, the height of the pandemic will be defined as March to May of 2020, as during this time the percentage of workers working remotely was the highest.

This study focused on students with at least one parent that worked remotely during the height of the pandemic because many COVID-19 restrictions were put in place and hindered communication. For example, state-wide shutdowns were issued and many businesses closed. Due to this and the fact that parents and children were at home, parents and children were limited in their interactions with other people, which would better reveal how communication changed throughout the pandemic.

Experimental Design

To collect data, a survey was sent out randomly to high school students at a public Colorado high school. A survey was chosen because it was the least personal method, whereas asking a student about their family in person could be considered stressful or an invasion of privacy. It was also used to produce the most accurate information for multiple questions.

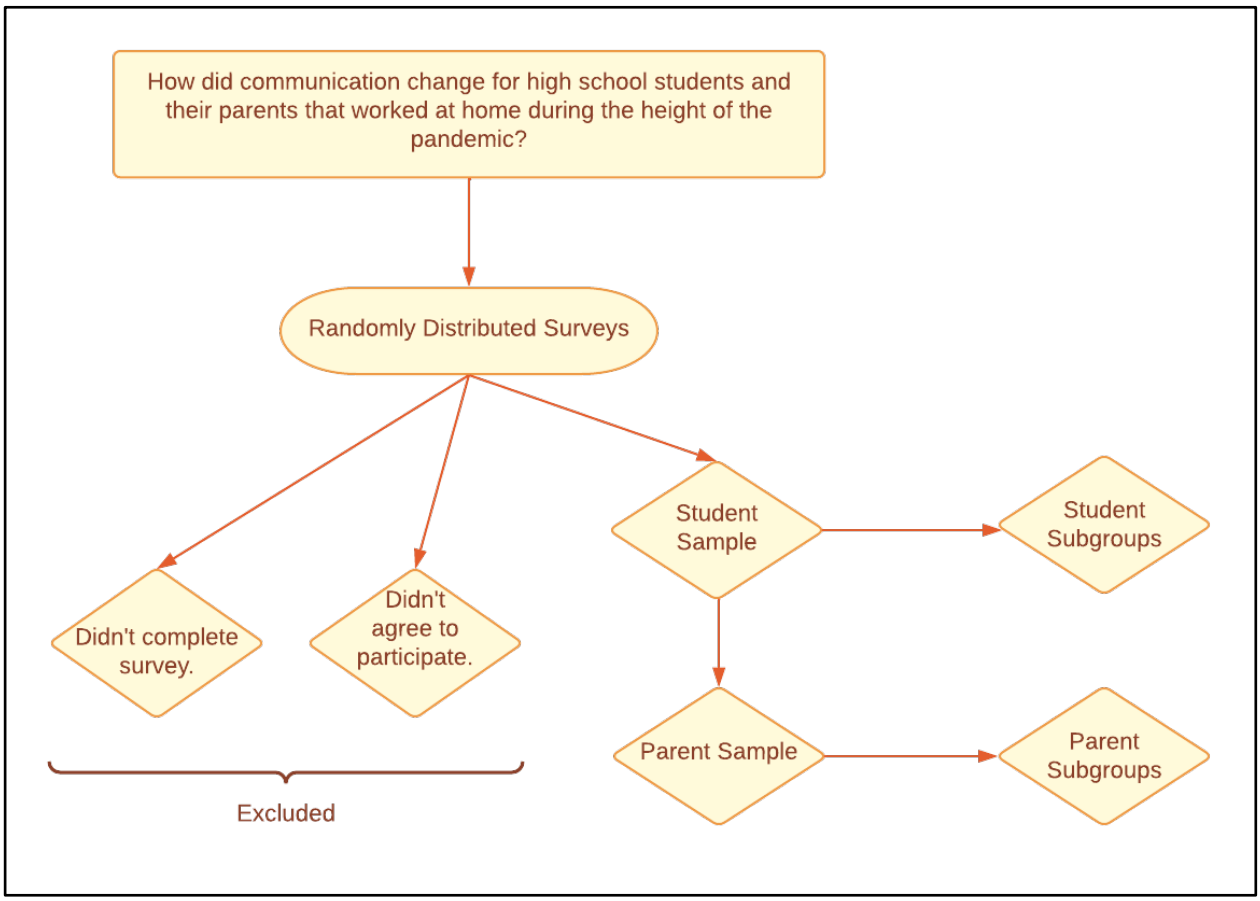

Figure 5. Experimental Design.

After data was collected for the whole student sample, it was divided into data for subgroups, such as grade level. Parent data was also collected and was divided into the whole parent sample and subgroups, such as mother or father (Figure 5).

Survey questions regarding communication were developed from Koerner and Fitzpatrick's (2002a) RFCP child and parent questionnaire (Appendix A).

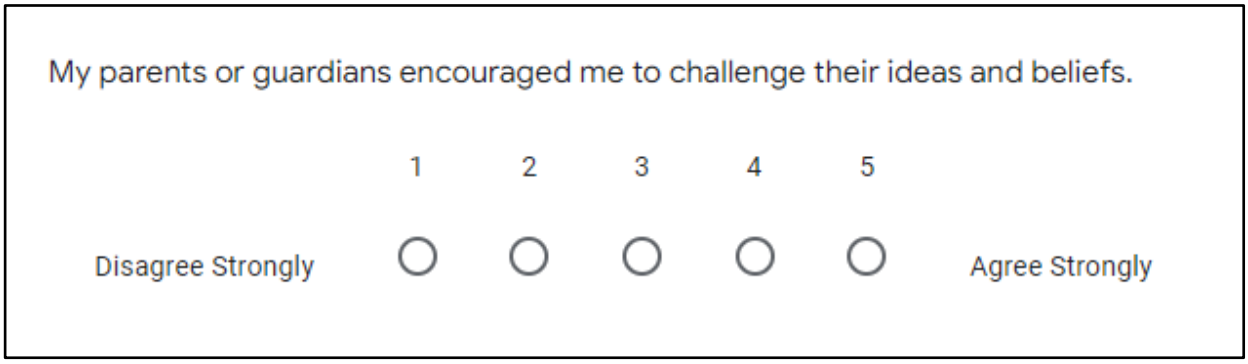

Figure 6. Example Question from Student Survey.

The RFCP uses a Likert scale (on a scale of one—*disagree strongly*—to five—*agree strongly*), and includes questions that measure conversation- and conformity-orientation in the family based on the perspective

of both the parent and child. This produced quantitative data that could be analyzed to determine how communication orientations changed. Figure 6 shows an example of a question from the survey.

This method is used in Schrodt and Shimkowski's (2015) study that looked at children's perceptions of co-parental communication using the RFCP questionnaire. An older version of the RFCP, the Family Communication Patterns instrument, is also mentioned in the literature, as well as used by Ritchie and Fitzpatrick (1990, 1994).

Table 2. Example of Questions Consolidated from Koerner and Fitzpatrick's RFCP.

Question(s) from RFCP	**Decision and Defense**
My parents often say something like "Every member of the family should have some say in family decisions." vs. My parents often ask my opinion when the family is talking about something.	Both of these questions represented similar ideas regarding sharing opinions. The second question was chosen because this study focuses on the communication between a child in high school and a parent. The first question applies to other family members, so it was removed from the survey.
My parents often say something like "You should always look at both sides of an issue."	This question was removed due to its irrelevance to the focus of this study. The researcher decided that whether or not a parent tells a child to look at both sides of an issue doesn't measure levels of communication.

Questions from the RFCP were narrowed down due to their similarity to each other and their irrelevance to this study. Of the original fifteen conversation-orientation questions, ten were chosen, and of the original eleven conformity-orientation questions, nine were chosen (Appendix B). An example of questions consolidated can be seen in Table 2.

The survey consisted of demographic questions followed by questions about communication. Demographic questions included age, grade level, number of siblings, and sibling age. Questions consolidated from Koerner and Fitzpatrick's RFCP questionnaire were asked twice to determine communication orientations during the height of the pandemic and current communication. Students were also asked to include a parent's email address if they worked at home during the height of the pandemic. If included, parent questionnaires were sent out, and their survey similarly consisted of demographic questions and the two-part communication questions consolidated from the RFCP. Parent demographic questions included their relationship to the student, whether they were divorced, and how long they worked at home or how long they have been working from home.

Ethical Design

Steps were taken to ensure that this study followed all ethical procedures. Participants' data remained anonymous and will be stored for one year for study validity and then deleted after three years. Students and parents could also not see each other's answers or request to see each other's answers. The Institutional Review Board approved the survey used in this study and the method of data collection. Parents were given the first name of the child that responded to the survey, in the case that multiple children were in high school and therefore could not be referred to as "high school student." Every participant had informed consent and voluntarily participated. If an individual took the survey without agreeing to take the survey, their information was excluded due to ethical reasons.

Procedure

After approval from the IRB, the questionnaire (Appendix C and D) was sent out randomly throughout a high school over multiple weeks. Participants had to meet two conditions for their data to be used: their parent(s) must have worked at home during the height of the pandemic and students must have completed the survey. If students met these conditions, their data was analyzed to produce a conclusion.

Limitations

This method posed limitations to the study in regards to self-reports and the study being retrospective. Students are reporting their own data, which could be influenced by outside factors, such as a fight with their family, and them answering questions differently than how they would have. Self-reports also rely on each participant's interpretation of a question, which could introduce variance in data. The study is also retrospective, as it asks participants to recall communication within their families during the height of the pandemic. Since participants are trying to recall information from 2020, their reports are likely not as accurate than if the survey was longitudinal and asked students to report communication orientations as the pandemic was occurring. Their responses could also be impacted by current events, such as a fight with their parents and students answering differently than how they typically would have.

Results

Statistical Method

Of the 163 student responses, only 84 students qualified. This sample size is greater than 30 and less than 10% of the studied high school population, so the student data is representative. Of the parent surveys that were sent out, fifteen parents responded. This sample size is below 30, so the parent data is not representative.

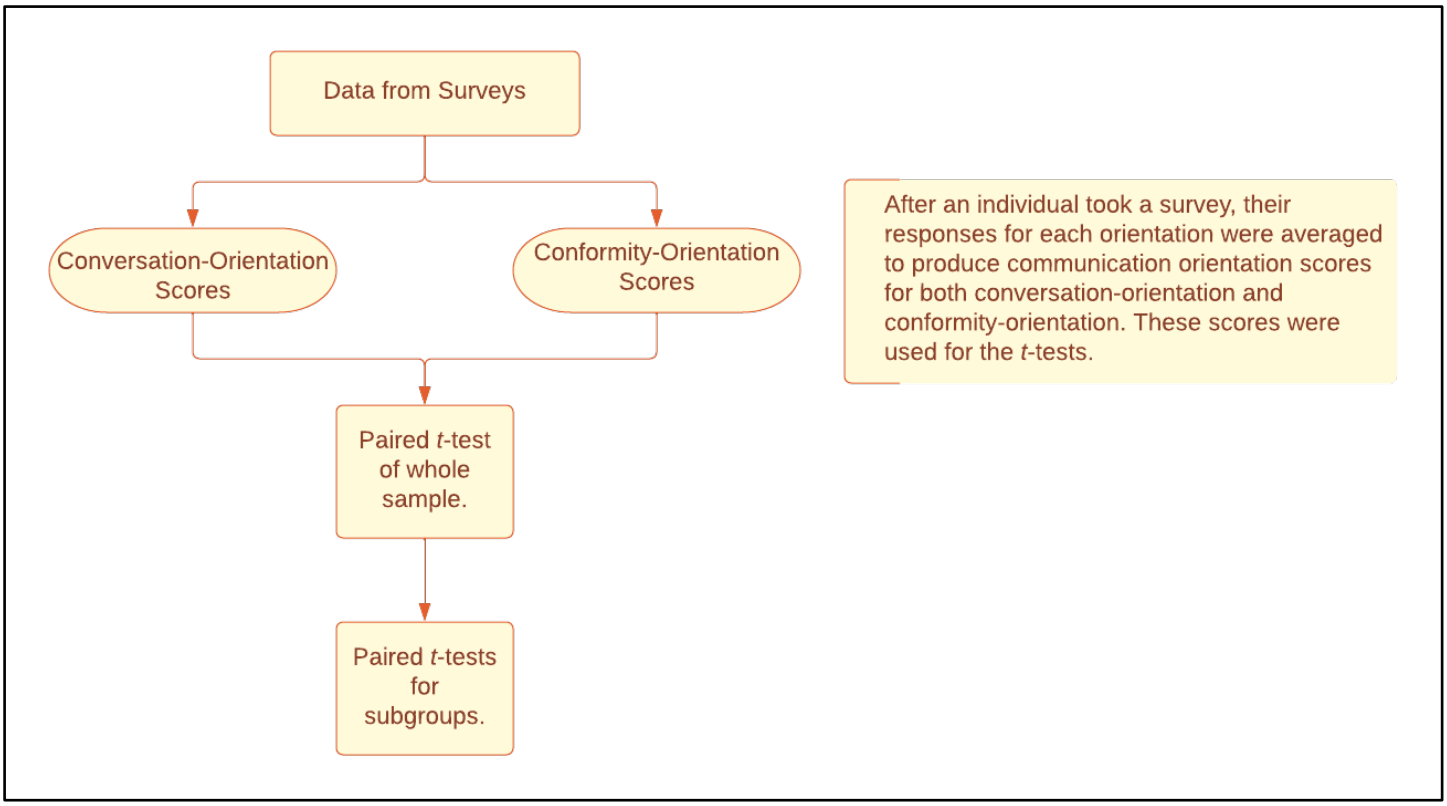

Figure 7. Procedure for T-tests.

Before analysis, the conversation-orientation and conformity-orientation answers were averaged to produce scores for both orientations for the height of the pandemic and currently (Figure 7). Answers to demographic questions were used to separate the samples into subgroups to identify differences among their average orientations over time.

Scores were analyzed through the use of a paired *t*-test. This method allowed the researcher to analyze differences in reported communication orientations throughout the pandemic. Two *t*-tests were performed for each group; the first looked at the change of conversation-orientation over time and the second looked at the change of conformity-orientation over time. The paired data consisted of average scores for an individual for the height of the pandemic and currently. If a test was significant, the pairwise differences in scores were averaged to determine if there was a positive or negative change in a dimension over time. Multiple linear regressions could also have been used in this study. The subgroups identified could have been used as predictors for communication levels; however, it would produce a correlation between subgroups and their orientation scores. A paired *t*-test is better because it answered the research question: How has communication changed for high school students and their parents throughout the pandemic? If a *t*-test had a significant result, it means that a communication dimension changed for a group, and indicates that something likely impacted communication for the group. For example, if students with parents that still worked at home show a significant positive difference in their conversation-orientation, then this change could be related to their parents encouraging communication after the child returned to school.

For a *t*-test, the null hypothesis would be that there is no difference between the communication dimensions for the height of the pandemic and the current communication scores. The alpha level used for this study was 0.05. This would prove whether communication dimensions changed, and averaging the differences throughout the pandemic would indicate how they changed.

Table 3. Sample Means and Standard Deviations for Communication and Differences in Students' Communication.

	Mean (Height)	SD	Mean (Current)	SD	Mean Diff.	SD	N	*p*-value
Conversation	3.355	0.982	3.369	1.005	0.0138	0.393	84	0.7491
Conformity	2.823	0.946	2.619	1.001	-0.204	0.370	84	0.0000026*

* $p < 0.05$ therefore the null hypothesis is rejected.

Table 3 shows the average conversation-orientation and conformity-orientation scores for all students, as well as the standard deviation for each value. Of these two paired *t*-tests, only the change in conformity-orientation was statistically significant.

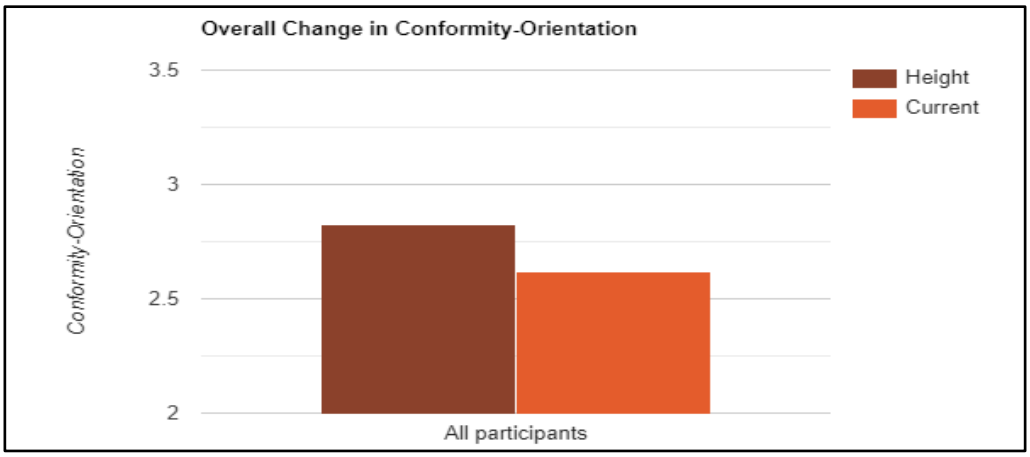

Figure 8. Average Conformity-orientation From the Height of the Pandemic to Current: Students. The y-axis starts at 2 to make differences found in communication orientations easier to see.

Overall, students had an average conformity-orientation of 2.82 during the height of the pandemic, which decreased by 0.2 on average, as seen in Figure 8. The paired *t*-test produced a *p*-value of 0.0000026, which is less than the alpha level of 0.05. Due to this, the null hypothesis can be rejected for the student sample's conformity-orientation. The researcher is also 95% confident that the true average difference between students' conformity-orientation levels from the height of the pandemic to the time of this study is between -0.12 and -0.28.

Table 4. Sample Means and Standard Deviations for Communication and Differences in Parents' Communication with Child.

	Mean (Height)	SD	Mean (Current)	SD	Average Diff.	SD	N	*p*-value
Conversation	3.853	0.436	3.932	0.481	0.079	0.311	15	0.3441
Conformity	2.230	0.435	2.015	0.498	-0.215	0.224	15	0.0023*

* $p < 0.05$ so the null hypothesis is rejected.

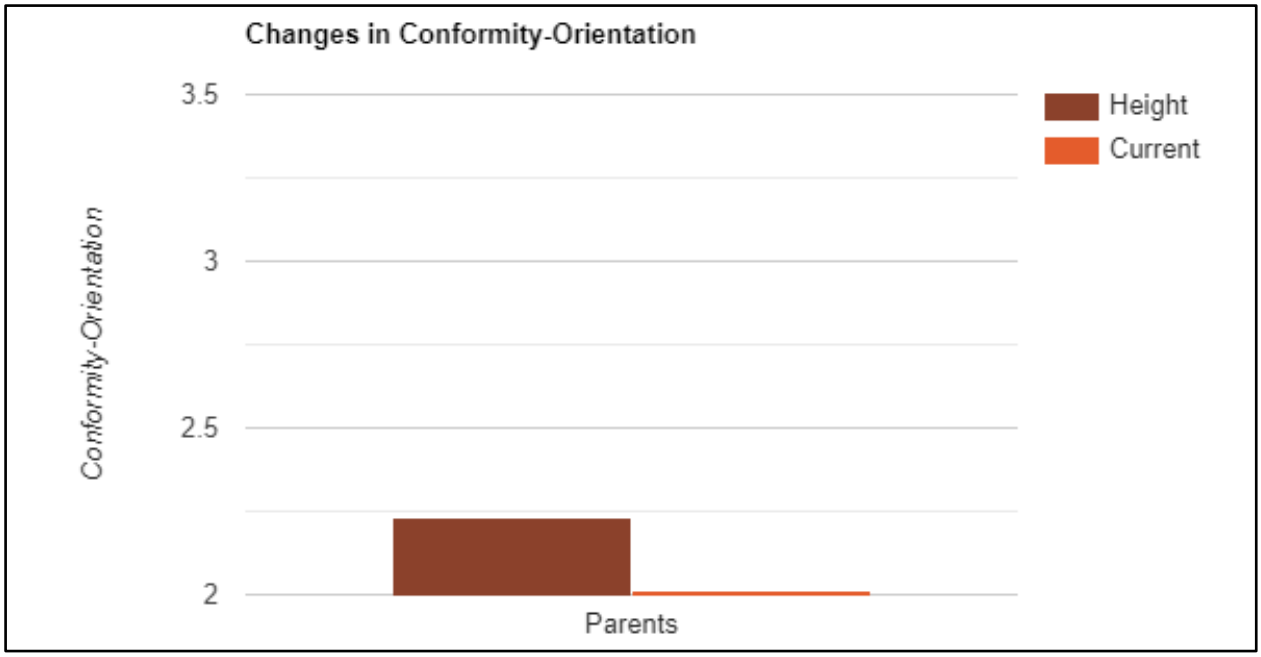

Figure 9. Mean Conformity-orientation From the Height of the Pandemic to Current: Parents. The y-axis starts at 2 to make differences found in communication orientations easier to see.

The parents' paired *t*-test for conformity-orientation produced a *p*-value of 0.0023 (Table 4), which is less than the alpha level of 0.05. Due to this, the null hypothesis can be rejected for parents' change in conformity-orientation. Parents had an average conformity-orientation of 2.23 at the height of the pandemic, which decreased by 0.22 on average, as seen in Figure 9.

Table 5. Statistically Significant Changes in Students' and Parents' Communication Dimensions.

	Mean (Height)	**Mean (Current)**	**Mean (Diff.)**	***p*-value**
Students' statistically significant change in conversation-orientation				
1 Sibling	3.26	3.35	0.10	0.0278
3 or more Siblings	3.24	3.03	-0.21	0.0113
Sibling in Elementary or younger	3.21	2.98	-0.22	0.0493

	Mean (Height)	Mean (Current)	Mean (Diff.)	*p*-value
Sibling in Grad School or has Graduated	2.87	2.79	-0.08	0.0254
Students' statistically significant change in conformity-orientation				
15-year-olds	2.76	2.64	-0.12	0.0263
17-year-olds	2.76	2.48	-0.28	0.0001
10th graders	2.75	2.61	-0.14	0.0426
12th graders	2.72	2.46	-0.26	0.0003
Female	3.00	2.78	-0.22	0.0001
Male	2.38	2.19	-0.19	0.0200
Parents Still Work at Home	2.81	2.57	-0.24	0.0000007
1 Sibling	2.83	2.62	-0.21	0.00004
3 or more Siblings	2.76	2.46	-0.30	0.0109
Sibling in Elementary or younger	3.16	2.91	-0.25	0.023
Sibling in Middle School	2.81	2.64	-0.17	0.0145
Sibling in High School	2.65	2.40	-0.24	0.0019
Sibling in College	2.68	2.35	-0.33	0.0015

Table 5 (continued).

	Mean (Height)	Mean (Current)	Mean (Diff.)	*p*-value
Parents' statistically significant change in conformity-orientation				

Father	2.20	1.93	-0.28	0.0177
Has Been Divorced	2.16	1.92	-0.24	0.0027
Does not Currently Work at Home	2.27	1.91	-0.36	0.0054
2 Children	2.36	2.07	-0.29	0.0062

Note. This is all of the data of subgroups that were statistically significant. Variations in the mean differences when compared to the mean height and mean current scores are due to rounding to the nearest hundredth. This was the subgroup data that rejects the null hypothesis, as $p < 0.05$. Averages are on a scale from one to five, with one indicating low orientation and five indicating high orientation in a communication dimension. Elementary students are those in elementary school, or 1st to 5th grade, or younger, including kindergarten, pre-school, and those too young to be in school. Middle school students are those in grades 6 to 8. High school students are those in grades 9 to 12. For grade levels, if a student had multiple siblings in one category their data would be counted more than once. For example, if a student has two siblings in middle school, their data would be counted twice. Grade levels and age levels were both used due to the fact that an individual in a grade could be younger or older than others on average, and would have lived through different events. Grade levels were used to determine differences in orientations that could be associated with changes in schooling.

Of the forty-six paired *t*-tests for student subgroups, seventeen came back with statistically significant *p*-values. Of those, four were significant changes of conversation-orientation, and thirteen were significant changes of conformity-orientation, as seen in Table 5. 15-year-olds had a statistically significant difference in their conformity-orientation, as well as 17-year-olds, 10th graders, 12th graders, females, males, and students who have at least one parent that works at home currently. Both males and females experienced a similar decrease in their conformity-orientation. Students who have one sibling, three or more siblings, or at least one sibling in elementary school saw a statistically significant change in both conversation-orientation and conformity-orientation. Students with a sibling in middle school, a sibling in high school, or a sibling in college saw a statistically significant difference in their conformity-orientation. Students with at least one sibling in grad school or who graduated saw a statistically significant difference in conversation-orientation. Four parent subgroups were found to be statistically significant, all of which had a significant change in conformity-orientation. This included fathers, parents who have not been divorced, parents who do not work at home currently, and parents with two children.

To see how students' interpretations of family typologies changed throughout the pandemic, students' orientations were graphed on the RFCP model.

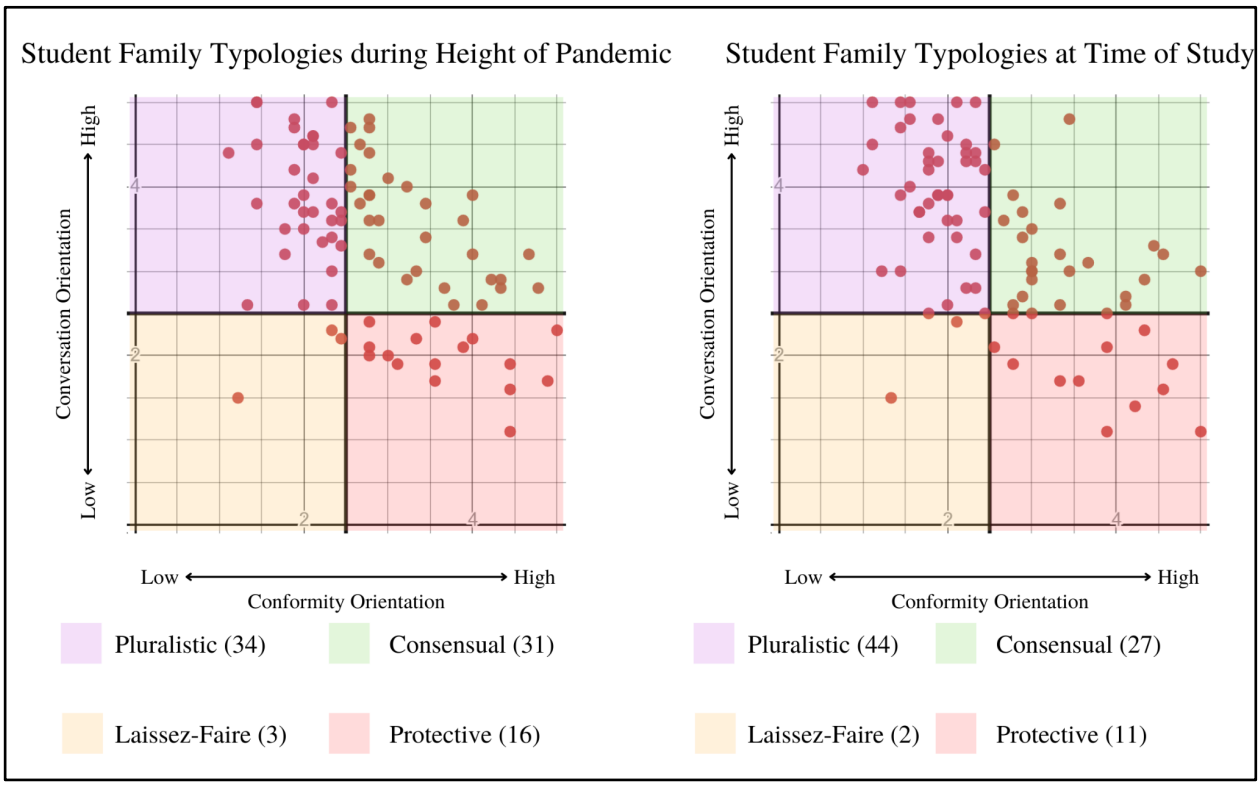

Figure 10. Students' Family Typologies - Height and Current Conversation- and Conformity-orientation. Descriptions of family types can be found in Table 1.

Students perceived their family communication as having higher conversation-orientation and lower conformity-orientation during the study as compared to the height of the pandemic. As seen in Figure 10, most families were consensual (31) and pluralistic (34). The decrease in conformity-orientation is also seen in Figure 10, where many students classified their families as pluralistic (44) currently.

This study was performed to answer the question, "How has communication changed for high school students and their parents that worked at home during the height of the pandemic?" Originally, the researcher intended to collect both students' and parents' responses and to look at similarities and differences between the two, as well as overall communication and family typology changes throughout the pandemic. However, due to low parent responses, student-parent data was not able to be compared. As mentioned above, only 15 parents responded. Parent orientation averages were still compared to student orientation averages, but because 163 students responded and 15 parents responded, their data was not paired by student-parent orientations as the researcher originally intended. It should be noted that the parent sample is below 30, so their data can't be extrapolated to the parents of the students at the studied high school that worked at home.

Discussion

Data Analysis

In contrast to the researcher's hypothesis, conversation-orientation and conformity-orientation decreased on average. Of the two, only the decrease in conformity-orientation was statistically significant for both students and parents, as the *p*-value for both tests was below the alpha level of 0.05 (Tables 3 and 4). Subgroups of students and parents also mainly showed a statistically significant decrease in conformity-orientation, and only

student subgroups had statistically significant changes in conversation-orientation, as seen in Table 5. The average difference in conformity-orientation from the height of the pandemic to now is -0.20. The researcher is also 95% confident that on average, scores of conformity-orientation are somewhere between -0.12 and -0.28 units lower than where they were at the height of the pandemic. This means that the perceived conformity-orientation of students has decreased throughout the pandemic.

New Understanding

This study filled a gap in the field by focusing on high school students' perceptions of communication during the pandemic and how family typologies changed throughout it. Both student and parent samples had a statistically significant decrease in their conformity-orientation. Since this data is representative of the high school the sample was drawn from, it can be concluded that students in the high school saw a statistically significant decrease in conformity-orientation from the height of the pandemic to the time of this study. This answered the question: How has communication changed for high school students and their parents that worked at home during the height of the pandemic? This study also provides data for the field on how family types change during stressful events that many people experience.

Limitations

This research has many limitations. The data are representative of only the high school the sample was drawn from, which is likely to differ from other high school populations. Also, many confounding variables impact levels of communication at the height of the pandemic and current communication: living situation, family stress, financial issues, and life events (such as divorce or death). The data collected for the sample may also under-represent some groups, as there were few 9th and 11th-grade respondents, which might not be reflective of the population. It should also be noted that the data indicate that there has been a change in conformity-orientation throughout the pandemic, but does not indicate that the change in restrictions and regulations or the pandemic itself caused the change in communication.

Implications

This study concludes that conformity-orientation decreased for high school students of the studied high school, but also provides additional data on topics scholars in the field have studied. Olson (2000), determined that family types change in times of stress. The COVID-19 pandemic can be considered a stressful situation that would have caused families to adapt. As seen in Figure 10, most families were consensual (31) and pluralistic (34). This high conformity-orientation could have been due to parents taking control of children's actions and the household to reduce the stress of uncertainty from the pandemic. The decrease in conformity-orientation is also seen in Figure 10, where many students classified their families as pluralistic (44) currently. This could be an indication that parents have felt less of a need for control as the pandemic continues and the world attempts to go back to "normal." This study also finds that parents report less conformity-orientation compared to their children, with parents reporting 2.23 at the height of the pandemic and 2.01 currently (Table 4), and students reporting 2.82 at the height and 2.62 currently (Table 3). Similar to Koerner and Fitzpatrick (2004), this study finds that mothers reported higher conversation-orientation and that students' reports were most similar to their fathers, which Ritchie and Fitzpatrick (1990) related to the age and grade of students. They found that those in younger grades had the most similar orientations to their mothers, whereas those in older grades had the most similar orientations to their fathers, which is consistent in this study. This study differs from Ritchie and Fitz-

patrick's findings that show that sons reported the highest levels of conformity-orientation of any family members. This study finds that when comparing students' gender, females reported higher conformity-orientation levels than males for both the height of the pandemic (3.00 and 2.38 respectively) and currently (2.78 and 2.19 respectively).

Conclusion

This study was performed to identify how familial communication has changed throughout the pandemic. It asked high school students about their communication with their families using the RFCP, and the collected data were analyzed using paired *t*-tests. It found that conversation-orientation had no statistically significant change, but conformity-orientation had a statistically significant decrease from the height of the pandemic to the time of this study. This research is useful to those studying family typologies and interactions in families, as it provides insight into how families have changed their communication throughout the pandemic and how high school students have perceived that change in communication. This study also provides insight into social interactions during the pandemic, which has not been fully researched by the field due to the recency of the COVID-19 pandemic and how it is continuing to affect people.

This study aimed to collect data from both students and their parents to compare how their communication dimensions changed throughout the pandemic. Due to low parent responses, students and parents could not be compared. A study in the future could use the RFCP to collect data from both parents and students to compare their data. This study could also be performed in other high schools so the findings could be more representative of high school students. For example, this study focuses on a high school in a fringe rural area, so a future study could look at high school students in an urban setting. A future study could also collect data on communication dimensions from before the pandemic and from the height of the pandemic to produce a larger range of data on how communication has changed. Further research could also be done on different parts of the working population. This study focused on parents that worked at home during the height of the pandemic; a future study could look at parents that continued to go to work and their high school students' communication change over time.

This study demonstrates a new understanding of the way that families change the way they interact during times of stress, such as a global pandemic, and how high school students perceive that change. The pandemic is a prime area of research to understand how families change the way they interact and what roles they play during times of stress. While this new understanding is important to the comprehension of family communication, more research is necessary to improve and expand these findings beyond the fringe rural high school to families across the United States.

References

American Academy of Pediatrics. (2021, March 24). *Despite the pandemic, many parents report family closeness*. Retrieved 2021, from www.aap.org/en/patient-care/family-snapshot-during-the-covid-19-pandemic/despite-the-pandemic-many-parents-report-family-closeness/.

Barnes, H. L., & Olson, D. H. (1985). Parent-adolescent communication and the circumplex model. *Child Development*, *56*(2), 438–447. https://doi.org/10.2307/1129732

Fitzpatrick, M. A., & Ritchie, L. D. (1994). Communication schemata within the family: Multiple perspectives on family interaction. *Human Communication Research*, *20*(3), 275–301. Accessed 2021, from https://www.researchgate.net/publication/279927493_Communication_Schemata_within_the_Family_Multiple_Perspectives_on_Family_Interaction.

Hickman, A., PhD, & Saad, L. (2020, May 22). *Reviewing remote work in the U.S. under COVID-19*. Gallup. Retrieved November 12, 2021, from https://news.gallup.com/poll/311375/reviewing-remote-work-covid.aspx.

Hickman, A., PhD, & Saad, L. (2021, February 12). *Majority of U.S. workers continue to punch in virtually*. Gallup. Retrieved November 12, 2021, from https://news.gallup.com/poll/329501/majority-workers-continue-punch-virtually.aspx.

Hultin, S. (2021, January 11). *COVID-19: Essential workers in the states*. National Conference of State Legislatures. Retrieved December 9, 2021, from https://www.ncsl.org/research/labor-and-employment/covid-19-essential-workers-in-the-states.aspx.

Koerner, A. F., & Fitzpatrick, M. A. (2002a). The revised family communication pattern instrument (parent & child versions) including scoring instructions. 10.13140/RG.2.2.15136.64000. Retrieved 2021, from https://www.researchgate.net/publication/331684350_The_Revised_Family_Communication_Pattern_Instrument_Parent_Child_versions_including_scoring_instructions.

Koerner, A. F., & Fitzpatrick, M. A. (2002b). Understanding family communication patterns and family functioning: The roles of conversation orientation and conformity orientation. *Annals of the International Communication Association*, *26*(1), 36–65. Retrieved 2021, from https://www.researchgate.net/publication/307812451_Understanding_Family_Communication_Patterns_and_Family_Functioning_The_Roles_of_Conversation_Orientation_and_Conformity_Orientation.

Koerner, A.F., & Fitzpatrick, M.A. (2004). Communication in intact families. In A. L. Vangelisti (Ed.), *Handbook of Family Communication* (pp. 177-195). Lawrence Erlbaum Associates Publishers. Retrieved 2021, from www.researchgate.net/publication/279187375_Communication_in_intact_families.

National Public Radio, Robert Wood Johnson Foundation, & Harvard T.H. Chan School of Public Health. (2021, October). *Experiences of U.S. households with children during the delta variant outbreak*. Retrieved 2021, from https://cdn1.sph.harvard.edu/wp-content/uploads/sites/94/2021/10/ChildrenHouseholdRWJF.pdf.

Olson, D. H. (2000). Circumplex model of marital and family systems. *Journal of Family Therapy*, *22*(2), 144–167. https://onlinelibrary.wiley.com/doi/10.1111/1467-6427.00144.

Öngören, S. (2021). The pandemic period and the parent-child relationship. *International Journal of Contemporary Educational Research, 8*(1), 94-110. Retrieved 2021, from http://ijcer.net/en/download/article-file/1313042.

Parker, K., Horowitz, J. M., & Minkin, R. (2020, December 9). *How the Coronavirus outbreak has – and hasn't – changed the way Americans work*. Pew Research Center. Retrieved October 4, 2021, from https://www.pewresearch.org/social-trends/2020/12/09/how-the-coronavirus-outbreak-has-and-hasnt-changed-the-way-americans-work/.

Ritchie, L.D., & Fitzpatrick, M.A. (1990). Family communication patterns: Measuring intrapersonal perceptions of interpersonal relationships. *Communication Research, 17*(4), 523-544. doi: 10.1177/009365090017004007. Retrieved 2021, from https://www.researchgate.net/publication/234626868_Family_Communication_Patterns_Measuring_Intra-Personal_Perceptions_of_Inter-Personal_Relationships.

Schrodt, P., & Shimkowski, J. R. (2015). Family communication patterns and perceptions of coparental communication. *Communication Reports*, *30*(1), 39–50. Retrieved 2021, from https://www.researchgate.net/publication/284197102_Family_Communication_Patterns_and_Perceptions_of_Coparental_Communication.

Sheffield, R. (2020, December 14). *Marital health, parental well-being, and family bonds during the pandemic: Findings from the 2020 American family survey*. United States Congress Joint Economic Committee. Retrieved August 29, 2021, from https://www.jec.senate.gov/public/index.cfm/republicans/2020/12/marital-health-parental-well-being-and-family-bonds-during-the-pandemic-findings-from-the-2020-american-family-survey.

Weissbourd, R., Batanova, M., McIntyre, J., & Torres, E. (2020, June). *How the pandemic is strengthening fathers' relationships with their children*. Making Caring Common Project | Harvard Graduate School of Education. Retrieved from https://static1.squarespace.com/static/5b7c56e255b02c683659fe43/t/5eeceba88f50eb19810153d4/1592585165850/Report+How+the+Pandemic+is+Strengthening+Fathers+Relationships+with+Their+Children+FINAL.pdf.