

USING PERSONALITY, CHILDHOOD TRAUMA, AND COPING  
MECHANISMS TO INVESTIGATE THE IMPACT OF COVID-19 ON  
FEMALE ADOLESCENTS

by

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A THESIS

Presented to the Department of Department of Psychology  
and the Robert D. Clark Honors College  
in partial fulfillment of the requirements for the degree of  
Bachelor of Science

May 2025

## **An Abstract of the Thesis of**

Ava Scott for the degree of Bachelor of Science  
in the Department of Psychology to be taken May 2025

Title: Using Personality, Childhood Trauma, and Coping Mechanisms to Investigate the Impact  
of COVID-19 on Female Adolescents

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The current study identified a need to continue researching the effects of COVID-19, especially among adolescent<sup>1</sup> girls. To investigate why this population was particularly vulnerable to the adverse effects of the pandemic, this study analyzes personality's ability to moderate the relationship between trauma history and coping mechanisms. Data for this study is from the Transitions in Adolescent Girls (TAG) project, occurring in Lane County Oregon. This project collected personality and trauma history data from its participants before COVID-19, and data on their coping mechanisms during the pandemic. The current study finds that depending on an individual's trauma history and preferred coping strategies during COVID-19, their personality can function as a protective factor or a risk factor. Future research should include more measures and nuance to expand the current study's findings. Lastly, future intervention efforts should focus on modifying adolescents' coping strategies to ensure they have the variety of skills needed to face an isolationist event like COVID-19.

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<sup>1</sup>Adolescence has a biological beginning with the start of puberty when an individual is around 9-10 years old and has a social end once an individual assumes adult roles and responsibilities sometime in their mid-20s (Pfeifer, 2024, 1:18). Adolescence is a period characterized by a variety of changes in one's body, brain, behavior, and relationships.

## **Acknowledgements**

Completing this project would not have been possible without the unwavering support of Dr. Yalda Asmatey. I have been captivated by her passion not only for her work but also for her students since the first time I had the pleasure of watching her lecture. She has continually pushed me to pursue my dreams and immerse myself in my passions. I strive to have even one ounce of the passion and drive she has for her work. I will forever cherish the guidance she has gifted me in this chapter of my life.

Additionally, I would like to thank my primary advisor, Dr. Jennifer Pfeifer. Without the opportunity to work in her lab, I would not have found my passion for research, and this project would not have been possible. My second reader, Amala Someshwar, thank you for guiding me through the thesis process. She did not have to take on this project, yet she did so with the utmost care and dedication to my success.

As for my family, I would like to thank them for always pushing me to think outside the box and shoot for the stars. They have truly taught me that the sky is the limit, and without their love and support, I would never have attended Clarks Honors College. I would also like to show my gratitude to my partner, Devin Hutsell, for ensuring that I care for myself during this process. His love and support mean the world.

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## **Background**

COVID-19 is an infectious disease, primarily affecting the respiratory system, caused by the SARS-CoV-2 virus (Asselah et al., 2021). The disease originated in Wuhan, China, in December 2019 as an epidemic and quickly spread worldwide, becoming a pandemic. The first cases of COVID-19 reported in the United States (U.S.) occurred in January 2020. By March 2020, the U.S. had declared COVID-19 a national emergency. It provided guidelines for states on controlling the spread of the virus, including social distancing, instructing individuals to limit gatherings to no more than 10 people, working from home, closing schools, and avoiding non-essential travel. Although the federal government issued these guidelines, states decided how and when to impose them. California was the first state to impose a statewide stay-at-home order in March 2020. By April 2020, over 40 states had imposed similar lockdowns.

The U.S. took a vastly different approach to controlling the spread of COVID-19 compared to other countries. China began quarantining infected individuals and instituting strict travel bans in January 2020, with citizens unable to leave their homes except to fulfill their essential needs, such as obtaining food or receiving medical care (Tian et al., 2020). Italy was the first European country to institute a national lockdown in March 2020, closing non-essential businesses and fining individuals who left their homes for non-essential purposes (Signorelli, Scognamiglio, & Odone, 2020). Countries and states with a stricter response to COVID-19 tended to fare better regarding COVID-19 illness and death (Hale et al., 2021).

Specifically, as it relates to the sample of this study, Oregon implemented one of the earliest and most stringent stay-at-home orders compared to other states. These orders included mandated mask usage, closure of all non-essential businesses, and strict limitations on in-person gatherings. Oregon's response to COVID-19 placed it among the top five states in pandemic

response effectiveness in the U.S., resulting in a lower per capita COVID-19 death rate than other states. In Lane County, Oregon, the origins of this study's sample, schools closed from March 2020 through the end of the year. Oregon's mayor issued an executive order in March 2021, a year after the initial COVID-19 outbreak, requiring that middle and high schools offer in-person instruction by April 2021. Oregon's approach to the pandemic differed significantly from that of other states, with Texas reopening schools by fall 2020. Oregon's approach to COVID-19 may pose both significant health benefits and unique mental health challenges to the current study's sample.

## Introduction

Why did some adolescents struggle more than others during the COVID-19 pandemic? As climate change<sup>2</sup> continues to increase the probability of experiencing another pandemic, we are running out of time to answer this question (Oliveira & Tegally, 2023). We must examine the factors that differentiated people's experiences with COVID-19. While systemic effects are inarguably present, individual factors are critical to consider, since they may confer risk for increased mental health symptomatology (Hussong et al., 2021). By identifying which individual differences conferred the most risk for adverse mental health outcomes in adolescents during COVID-19, future intervention efforts can readily identify those who need additional support. Certain personal factors, such as personality and gender, are risk factors for depression and anxiety (Schneiderman et al., 2008); the current study examines how personality and trauma history influenced the coping mechanisms utilized by adolescent girls during COVID-19.

### *Personality*

Personality describes consistent patterns in thoughts, feelings, and behaviors, often categorized into five broad traits: openness, conscientiousness, extraversion, agreeableness, and negative emotionality (Roberts et al., 2008 from de Moor et al., 2023). These core personality traits become apparent in adolescence and remain relatively stable over time, with temporary shifts occurring after significant life transitions, such as starting a new job or attending college (de Moor et al., 2023).

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<sup>2</sup> Climate change describes the long-term alteration of Earth's climate system by greenhouse gas emissions (Dietz, Shwom, & Whitley, 2020). Evidence for climate change includes rising global temperatures and more frequent and extreme weather events. Extreme weather drives disease outbreaks by increasing the dispersal of disease vectors, including mosquitoes, rodents, and ticks, and displacing humans and animals, which can carry and transmit pathogens (Oliveira & Tegally, 2023).

While drastic, noticeable changes in personality are uncommon, personality is not entirely unchanging. Over time, people tend to become more conscientious, agreeable, and open to experience and display less negative emotionality (de Moor et al., 2023). Such fluctuations in personality foster relational success and encourage individuals to become productive members of society (Caspi et al., 2005). The interpersonal rewards that accompany social success positively reinforce fluctuations in personality over time (Bleidorn, 2015). This process exemplifies the maturity principle, proposing that as individuals age, their personality develops to facilitate normative, adaptive functioning (de Moor et al., 2023). For instance, becoming more agreeable aligns with the maturity principle since it promotes prosocial behaviors, such as getting along with others, that are crucial for relational success.

When evaluating the disproportional impact of COVID-19, personality is crucial to examine since it predicts life outcomes. Some studies even suggest that personality's influence is comparable to that of socioeconomic status or intelligence quotient (Roberts et al., 2007; Ozer & Benet-Martinez, 2006; Ferschmann et al., 2018). Personality's predictive power is partially due to its influence on mental health and well-being, with some personality traits functioning as risk factors for psychiatric disorders (Ferschmann et al., 2018; Moreira et al., 2021). Examining personality helps psychologists understand how individual differences shaped experiences with COVID-19 and identify those most vulnerable for future support.

### *Childhood Trauma*

Traumatic experiences result from stressors that exceed someone's ability to cope, causing long-term distress (Zoromba et al., 2024). Instances of childhood trauma range from parental separation to physical, sexual, or verbal abuse. Childhood trauma can influence life outcomes by altering development in childhood and adolescence, causing a variety of adverse

health outcomes in adulthood, including depression, substance abuse, severe obesity, chronic physiological diseases such as heart, lung, and liver disease, and premature death (Sheffler et al., 2019; Elzy et al., 2013).

Previous research suggests that personality and childhood trauma have a reciprocal relationship, meaning trauma impacts personality, and personality influences trauma exposure (Rakhshani & Furr et al., 2021; Hampson et al., 2016). Trauma impacts personality by increasing negative emotionality and decreasing agreeableness (Rakhshani & Furr et al., 2021).

Personality's influence on trauma exposure is evident in that personalities less conducive to prosocial behaviors encounter more trauma over time. For instance, girls who are less conscientious and agreeable in childhood experience more trauma throughout their lives compared to girls with other personality traits (Hampson et al., 2016). Thus, evaluating trauma history allows us to fully understand the differential impact of COVID-19 due to its influence on personality.

### *Coping Mechanisms*

Since coping mechanisms predict mental health outcomes, we can better understand the impact COVID-19 had on our participants' well-being (Foster et al., 2023). Coping mechanisms are strategies individuals use to consciously manage external stressors (Parker & Endler, 1992; Sheffler et al., 2019) and are generally categorized into three types: adaptive, avoidant, and maladaptive. Adaptive coping involves deliberately confronting stressors through problem-solving, emotion regulation, seeking social support, and cognitive restructuring (Foster et al., 2023). Avoidant coping involves managing stressors through distraction, wishful thinking, or social withdrawal (Foster et al., 2023). Finally, maladaptive coping often provides short-term relief from stressors. However, the consistent use of maladaptive coping mechanisms, including

the unjustified criticism of others, self-blame, and substance use, come with long-term consequences that generate more stress (Foster et al., 2023).

Further, the use of avoidant coping mechanisms is neither inherently good nor bad since the ability of these mechanisms to manage stressors is entirely context-dependent (Elzy et al., 2012). For example, research found that avoidant coping yields better psychological outcomes for traumatized adolescents facing situations beyond their control (Elzy et al., 2013). However, as individuals gain more autonomy from childhood to adulthood, their ability to control their circumstances changes, making avoidant coping potentially more beneficial for younger individuals but less so for adults (Sheffler et al., 2019). Additionally, adolescent girls are prone to use substances, specifically marijuana, to cope with stressors. Girls may engage in this maladaptive behavior since they tend to score below average in conscientiousness and emotional stability (Jones et al., 2021).

#### *Known Interactions Between Personality, Childhood Trauma, and Coping Mechanisms*

Past literature supports an interaction between personality, childhood trauma, and coping mechanisms. Research shows that individuals with a history of childhood trauma are more likely to utilize less effective coping strategies (Sheffler et al., 2019), and score above average in negative emotionality and below average in conscientiousness (Grusnick et al., 2020). These findings in conjunction with personality's ability to influence the coping mechanisms people utilize (Melegari et al., 2021; Panayiotou et al., 2014), suggests that personality may moderate the relationship between trauma history and coping mechanisms. Thus, the interactions between our variables of interest demonstrate the far-reaching effects of childhood trauma on an individual's life, influencing deeply ingrained traits, such as personality, and contributing to the risk of adverse, long-term outcomes (Grusnick et al., 2020).

### *Interactions During COVID-19*

Since the interactions between personality, childhood trauma, and coping mechanisms have lasting effects on well-being, we must evaluate how they influenced individuals' experiences during the pandemic. A study examining the chat inquiries to Childhelp, the National Child Abuse Hotline, during COVID-19 found the pandemic increased youths' exposure to trauma (Sinko et al., 2021). Factors heightening adolescents' risk of trauma during the pandemic include exposure to intimate partner violence, separation from external support systems, including schools and sports clubs, and disruption of daily routines (Sinko et al., 2021). Adolescents' separation from non-familial support systems significantly limited their ability to cope with stressors and access support beyond their caregivers (Sinko et al., 2022). Since the pandemic limited adolescents' contact with peers, some protective personality factors, like extraversion, may have been unable to influence their use of adaptive coping mechanisms, such as seeking social support (Panayiotou et al., 2014; van Loon et al., 2021; Jones et al., 2022).

Adolescent girls were especially vulnerable to the adverse effects of the pandemic (Foster et al., 2023; Moccia et al., 2020; Melegari et al., 2021). Restrictions on in-person interactions during COVID-19 may have contributed to this vulnerability since adolescent girls are more likely to seek social support in times of distress (Foster et al., 2023; Elzy et al., 2013). Thus, since COVID-19 limited girls' ability to engage in the adaptive behaviors they were accustomed to, such as seeking social support, to manage stress, it may explain their tendency to employ avoidant or maladaptive coping mechanisms, such as wishful thinking, during lockdown (Foster et al., 2023). Therefore, limitations COVID-19 placed on social support, in conjunction with increased trauma exposure, create an environment in which stressors can surpass adolescents' coping resources, generating conditions for the development of mental health symptomatology.

### *Present Study*

Although research has begun to analyze the effects COVID-19 had on adolescent girls, much more work is needed to fully understand how the pandemic affected the relationships between personality, childhood trauma, and coping mechanisms. The current research study aims to address this gap in the literature by evaluating the interactions between these three variables within the context of COVID-19. Addressing this empirical gap is imperative to understanding the pandemic's full ramifications on adolescents' well-being, especially as global temperatures rise and the probability of experiencing other isolationist events increases. We expect that personality will moderate the relationship between coping mechanisms and trauma history.

## **Methods**

### **Participants**

In total, 174 adolescents assigned female at birth, aged 10-13 years old, were recruited from the Eugene/Springfield community in Lane County, Oregon, United States. Due to the longitudinal nature of this study, during data collection for personality and trauma history, participants were 12-14 years old, with participants being 13-15 years old during data collection for coping mechanisms. Of the 174 participants, 120 were included in the current study. Families were primarily recruited through recruitment letters distributed by local schools. Letters were sent to families with a female student in grades 5 or 6. Recruitment flyers were also posted around Lane County to encourage participation. Ethics approval was granted by the Institutional Review Board of the University of Oregon.

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| Race/Ethnicity                   | Percentage (%) |
|----------------------------------|----------------|
| Non-Hispanic White               | 66.1           |
| White Hispanic                   | 8.6            |
| Asian and Hispanic               | 0.6            |
| African American and Hispanic    | 0.6            |
| Hispanic (not further specified) | 2.9            |
| American Indian/Alaskan Native   | 0.6            |
| Asian                            | 0.6            |
| African American                 | 0.6            |
| Multiracial                      | 19.5           |

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*Table 1.* Race and Ethnicity of Participants (N = 174)

*Note.* Guardians reported race and ethnicity information on a demographic questionnaire. The distribution of race and ethnicity in the sample is more diverse than that of Lane County's population.

## **Timeline and Procedure**

The current study analyzes data collected from a broader longitudinal study, the Transitions in Adolescent Girls (TAG) project, taking place over 6 years. The study's first wave (W1) occurred when participants were 10 to 13 years old ( $M_{\text{age}} = 11.64$ ,  $SD = 0.81$ ). Each subsequent wave occurred roughly 12-18 months after the previous wave and included two laboratory sessions. Each session lasted 2-3 hours and occurred approximately 1 month apart. Between these two sessions, participants completed additional measures at home. Data collection for W3 exceeded 18 months due to the pandemic's restriction on in-person interaction.

At the beginning of each wave, guardians provided written consent, and children assented to participate. In the first session of W1, participants completed a diagnostic interview and

various questionnaires. They also received instructions on preparing for their next session and completing the required measures at home. A month later, when participants attended their second session, they received an MRI scan and completed the remaining questionnaires, the self-narrative video, hair sampling, and anthropometric measures. The procedures outlined in this paragraph were repeated for all subsequent waves.

## **Measures**

### *Personality*

A 10-item short version of the Big-5 Inventory (BFI-10) was used to measure personality. The BFI-10 includes 2 items measuring each Big-5 personality trait: openness, agreeableness, extraversion, conscientiousness, and negative emotionality. Items for openness included “has an active imagination;” items for agreeableness included “is generally trusting;” items for extraversion included “is outgoing, sociable;” items for conscientiousness included “does a thorough job;” and items for negative emotionality included “gets nervous easily.” Participants rate each item based on how well it describes their personality using a 5-point Likert scale, with 1 representing “disagree strongly” and 5 representing “agree strongly.”

### *Childhood Trauma*

To measure participants’ experience with childhood trauma, the Childhood Trauma Questionnaire (CTQ) was used. The CTQ includes statements detailing a variety of experiences to measure a participant’s history of emotional, physical, or sexual abuse and emotional or physical neglect (Mc Elroy & Hevey, 2014). There are 5 items for each abuse and neglect subtype. Items include statements such as “I thought my parents wished I hadn’t been born” and “I saw members of my family hit or hurt each other.” Participants rate their experiences with each

item on a 5-point Likert scale, with 1 representing “never true” and 5 representing “very often.” If participants have experienced an item, they are asked to specify at what age.

### *Coping strategies*

To measure the coping strategies employed by participants, a modified version of the Kid-COPE was used to account for the effects of COVID-19. The Kid-COPE (Kid’s Coping Strategies Checklist) is a brief self-report questionnaire designed to assess coping strategies in children and adolescents, particularly in response to stress or anxiety-provoking situations (Spirito et al., 1988). To adapt the Kid-COPE for COVID-19, several items were either added or expanded to reflect the coping mechanisms available to adolescents specific to the pandemic. For example, item 2 from the original Kid-COPE measure, “I stayed away from people; kept my feelings to myself; and just handled the situation on my own” (Spirito et al., 1988), was changed to “I kept to myself- I didn’t hang out with anyone in-person or reach out to people much on phone, through text messages, or online.” By adapting item 2 from the original Kid-COPE measure to include both in-person and online options for connection, the modified Kid-COPE can more accurately measure coping during COVID-19 since it better reflects the coping mechanisms available to adolescents during this time. The modified Kid-COPE retains the measure’s original structure while ensuring relevance to the pandemic context.

The modified Kid-COPE includes 20 items to assess 3 broad categories of coping mechanisms: adaptive, avoidant, and maladaptive. Items for adaptive coping include “I thought of ways to help solve the problem...,” items for avoidant coping include “I wished the problem had never happened;” and items for maladaptive coping include “I used drugs or alcohol to forget about the problem and my feelings.” Participants rate how often they used each item within the last 30 days on a 6-point Likert-type scale, with 1 representing “never” and 6

representing “almost constantly.” For items endorsed more frequently than “never,” participants rate how helpful the item was, using a similar 6-point scale with 1 representing “not at all” and 6 representing “extremely.”

## **Data Analysis**

To analyze whether personality moderates the relationship between childhood trauma and coping mechanisms, we will generate three separate General Linear models. The first model will evaluate whether there is a significant predictive relationship between personality and coping mechanisms. The second model will assess whether there is a significant predictive relationship between personality and coping mechanisms, controlling for childhood trauma. The third model will evaluate whether personality interacts with childhood trauma to influence the types of coping mechanisms utilized. Obtaining a statistically significant result from the generation of the third model implies that the relationship between personality and coping mechanisms is dependent on the level of experience an individual has with childhood trauma.

Numerous steps were taken to ensure data was ready for analysis. This process began by collecting each participant’s closest available CTQ and BFI-10 data point before COVID-19. This step allows our research to evaluate individual differences existing before COVID-19, ensuring their ability to affect the coping mechanisms participants used in April 2020. CTQ and BFI-10 data for this study were collected from W2 (2017-2019) and W3 (2019-2021) of the Transitions in Adolescent Girls (TAG) project. If participants completed W3 before March 2020, their CTQ and BFI-10 data from W3 were included. However, if participants had not completed W3 before March 2020, their CTQ and BFI-10 data from W2 were included. Due to missing data, two participants’ CTQ and BFI-10 data were collected from W1. Additionally, one

participant had missing CTQ data from W2, so W1 data was used for analysis. Only one participant with CTQ and BFI-10 data available was removed due to missing Kid-COPE data.

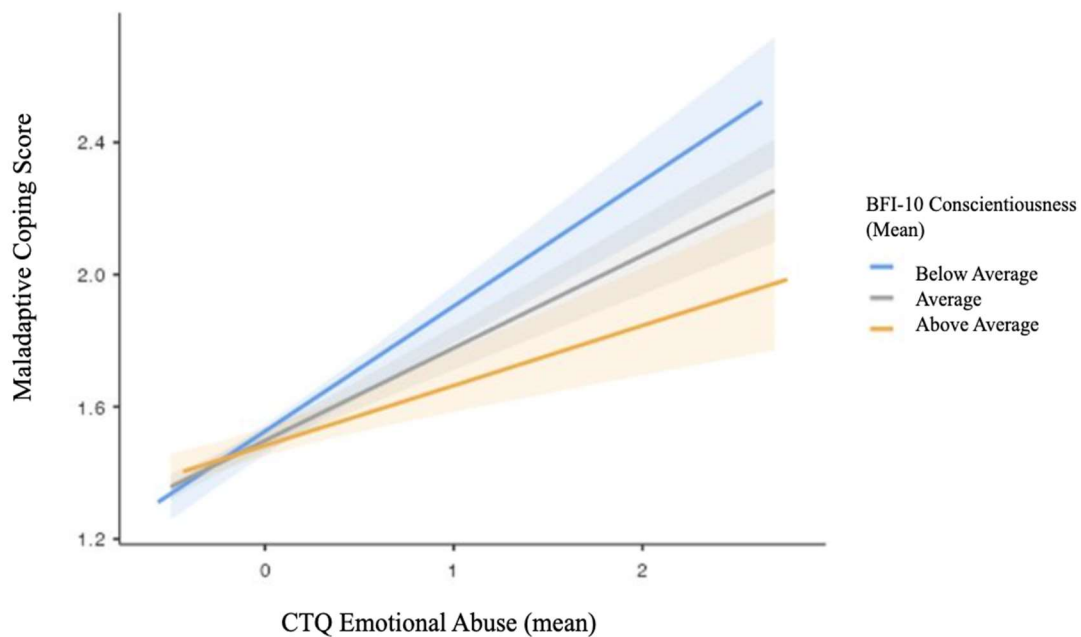
Next, due to the modified nature of the Kid-COPE questionnaire used in this study, Confirmatory Factor Analyses (CFA) were run to ensure the Kid-COPE data was scored correctly. Two CFAs were run in Jamovi: one tested the loadings of Kid-COPE items on healthy and unhealthy factors, and the other on active, avoidant, and maladaptive factors. The results of both CFAs did not produce strong enough loadings to justify the proposed scoring techniques.

To remedy this, two Exploratory Factor Analyses (EFA) were run in Jamovi. The first analysis was prompted to sort Kid-COPE items into three groups, while the second EFA sorted them into four. The first EFA produced significant results. All three item clusters were fed through ChatGPT to ensure each cluster was labeled appropriately. This process separated Kid-COPE items into adaptive, avoidant, and maladaptive subdomains. The EFA provided significant results compared to our CFA model with similar categories due to how the items were sorted in the EFA compared to the CFA. For instance, in our CFA model, item 16, “I talked to a psychologist, therapist, or other mental health support service,” was included in the adaptive category. However, in the EFA, this item was categorized as maladaptive coping. This categorization may not seem intuitive; however, individuals may turn to therapy because they need help managing their maladaptive coping tendencies.

Lastly, the Kid-COPE data was cleaned in Excel, and each participant received summation scores for each coping mechanism subtype. The decision to quantify Kid-COPE data using summation scores was drawn from previous research that used an unmodified version of the Kid-COPE questionnaire (Foster et al., 2023).

## Results

The current study aims to understand why some adolescent girls struggled more than others during COVID-19. To answer this question, we analyzed three variables: personality, trauma history, and coping mechanisms. We hypothesized that personality would moderate the relationship between trauma history and coping mechanisms. This section discusses our study's core results. If the reader would like to explore our remaining findings, they can see the supplemental file.



*Figure 1.* Moderation effect of conscientiousness on the relationships between emotional abuse and maladaptive behaviors

*Note.* CTQ refers to the Childhood Trauma Questionnaire. BFI-10 refers to the 10-item shortened version of the Big-5 Inventory. Both the CTQ and BFI-10 are measures used in this study.

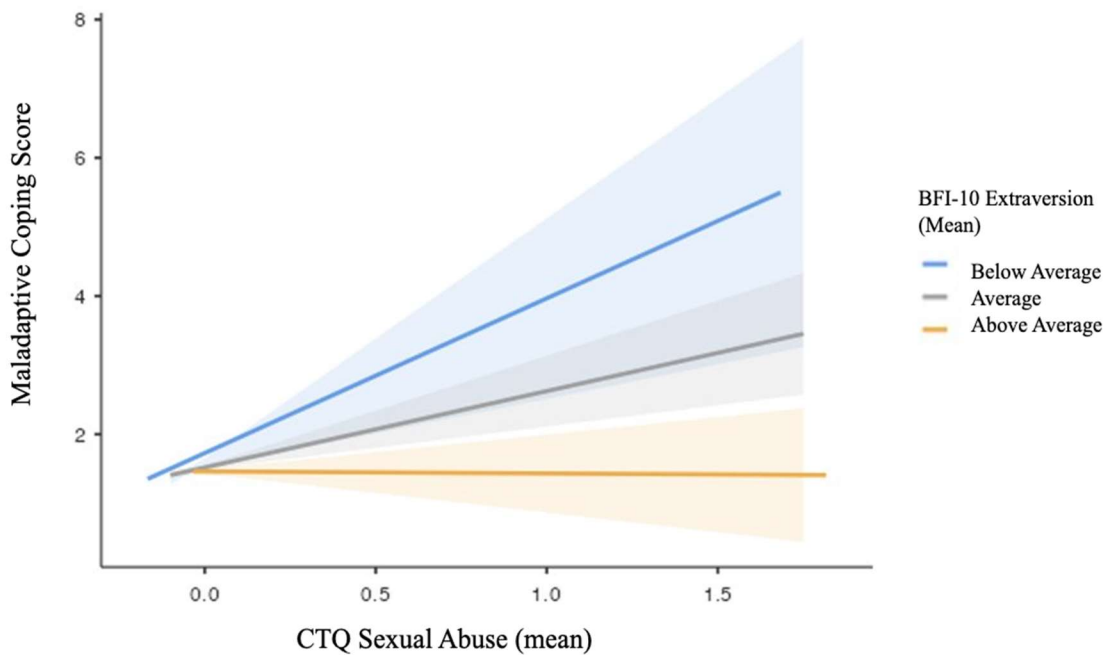
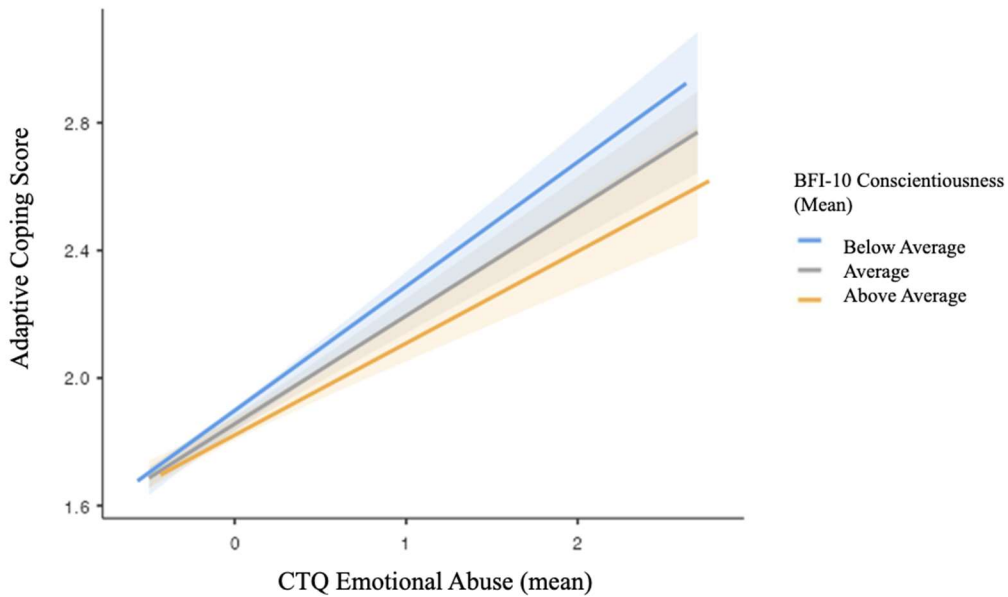


Figure 2. Moderation effect of extraversion on the relationship between sexual abuse and maladaptive behavior

*Note.* CTQ refers to the Childhood Trauma Questionnaire. BFI-10 refers to the 10-item shortened version of the Big-5 Inventory. Both the CTQ and BFI-10 are measures used in this study.

Using maladaptive coping as the outcome variable, we examined the interaction between personality traits and specific instances of childhood trauma. When emotional abuse was included as a predictor alongside personality traits, the model significantly explained 65.7% of the variance ( $R^2 = 0.66$ ,  $p < .001$ ). Notably, conscientiousness significantly moderated the relationship between emotional abuse and maladaptive behaviors ( $b_i = -0.11$ ,  $p < .001$ ), suggesting that above average conscientiousness may serve as a protective factor (see *Figure 1*). A similar pattern was observed when physical abuse was added to the model ( $R^2 = 0.75$ ,  $p < .001$ ), where conscientiousness significantly moderated the relationship between physical abuse and maladaptive behaviors ( $b_i = -0.30$ ,  $p < .001$ ). When physical neglect was included in the model ( $R^2 = 0.74$ ,  $p < .001$ ), conscientiousness once more significantly moderated the

relationship between physical neglect and maladaptive behaviors ( $b_i = -0.10, p = .013$ ). The model including sexual abuse ( $R^2 = 0.64, p < .001$ ) found that extraversion ( $b_i = -1.22, p = .007$ ) and agreeableness ( $b_i = 1.02, p = .018$ ) significantly moderated the relationship between sexual abuse and maladaptive behaviors, suggesting that above average extraversion (see *Figure 2*) may serve as a protective factor while above average agreeableness may serve as a risk factor.



*Figure 3.* Moderation effect of conscientiousness on the relationship between emotional abuse and adaptive behavior

*Note.* CTQ refers to the Childhood Trauma Questionnaire. BFI-10 refers to the 10-item shortened version of the Big-5 Inventory. Both the CTQ and BFI-10 are measures used in this study.

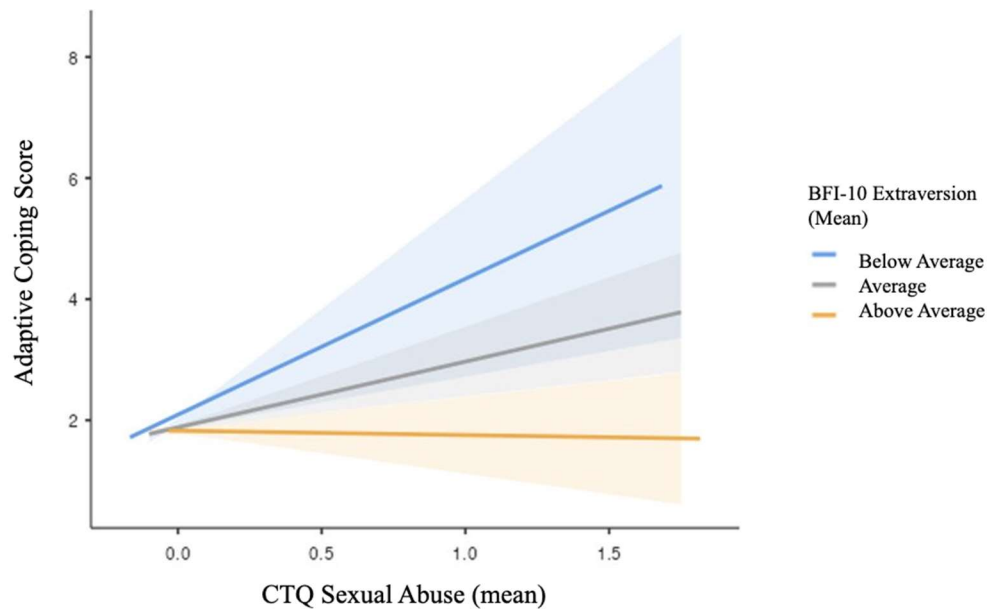
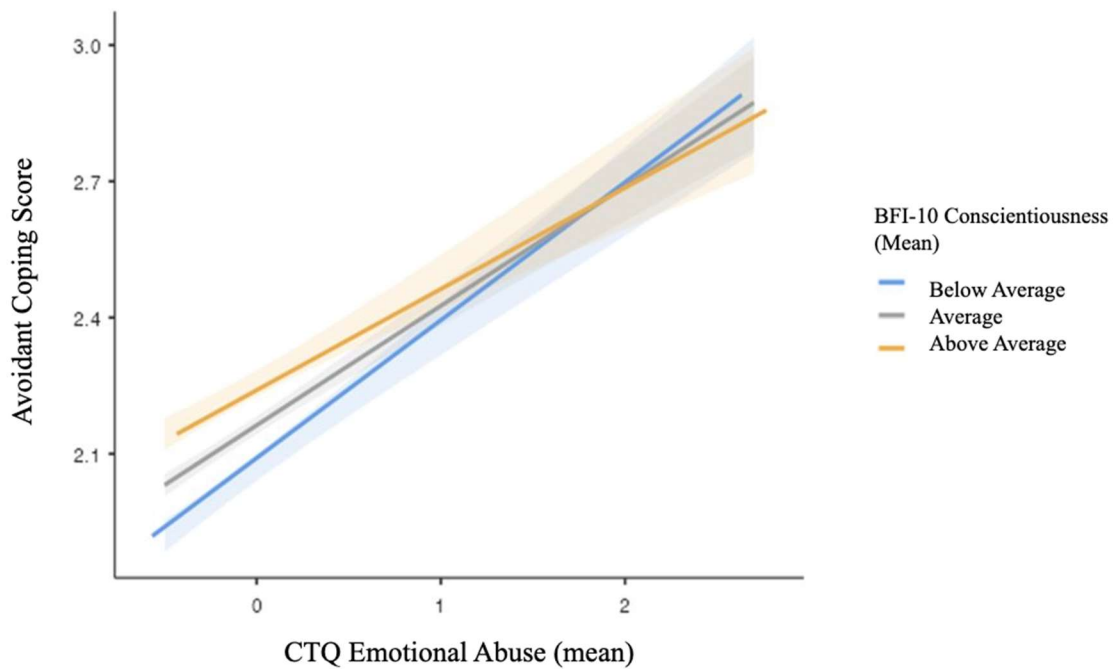


Figure 4. Moderation effect of extraversion on the relationship between sexual abuse and adaptive behavior

Note. CTQ refers to the Childhood Trauma Questionnaire. BFI-10 refers to the 10-item shortened version of the Big-5 Inventory. Both the CTQ and BFI-10 are measures used in this study.

Using adaptive coping as the outcome variable, we examined the interaction between personality traits and specific instances of childhood trauma. When adaptive coping was the outcome variable in our model, we found that emotional abuse alongside personality significantly explained 83.5% of the variance ( $R^2 = 0.84, p < .001$ ). Notably, conscientiousness significantly moderated the relationship between emotional abuse and adaptive behaviors ( $b_1 = -0.05, p = .010$ ), suggesting that above average conscientiousness may decrease the use of adaptive coping mechanisms (see Figure 3). The model including physical abuse ( $R^2 = 0.74, p < .001$ ) found that extraversion ( $b_1 = -0.34, p = .024$ ) and conscientiousness ( $b_1 = -0.18, p = .037$ ) significantly moderated the relationship between physical abuse and adaptive behavior, suggesting that above average extraversion and conscientiousness may decrease the utilization of

adaptive coping strategies. The model including sexual abuse ( $R^2 = 0.67, p < .001$ ) found that extraversion ( $b_i = -1.24, p = .015$ ) and agreeableness ( $b_i = 1.09, p = .024$ ) significantly moderated the relationship between sexual abuse and adaptive behavior, suggesting that above average extraversion (see *Figure 4*) may decrease adaptive coping while agreeableness may increase adaptive coping.



*Figure 5.* Moderation effect of conscientiousness on the relationship between emotional abuse and avoidant behavior

*Note.* CTQ refers to the Childhood Trauma Questionnaire. BFI-10 refers to the 10-item shortened version of the Big-5 Inventory. Both the CTQ and BFI-10 are measures used in this study.

Lastly, using avoidant coping as the outcome variable in our model, we found that emotional abuse alongside personality significantly explained 88.7% of the variance ( $R^2 = 0.89, p < .001$ ). Notably, conscientiousness significantly moderated the relationship between

emotional abuse and avoidant behaviors ( $b_1 = -0.04$ ,  $p = .009$ ), suggesting that above average conscientiousness may decrease the use of avoidant coping mechanisms (see *Figure 5*).

## **Discussion**

Our study examined personality's ability to moderate the relationship between trauma history and coping mechanisms in the context of adolescent girls and COVID-19. Overall, we found that depending on trauma subtype and coping mechanism, personality could function as either a protective factor or a risk factor. Thus, adolescent girls may have struggled more or less than their counterparts during COVID-19, depending on how their personality profiles interacted with their past traumas to inform the coping mechanisms they used during the pandemic.

### **Maladaptive Coping**

Our results regarding maladaptive coping indicate that scoring above average in conscientiousness in the context of emotional abuse, physical abuse, or emotional neglect results in individuals utilizing fewer maladaptive coping mechanisms. These results are consistent with previous literature that suggests individuals scoring above average in conscientiousness utilize fewer maladaptive coping mechanisms (Panayiotou et al., 2014). Conscientiousness may decrease the use of maladaptive coping mechanisms since conscientious individuals tend to engage in more adaptive behaviors, including problem-focused and task-oriented coping strategies (Panayiotou et al., 2014). In the context of sexual abuse, extraversion decreased while agreeableness increased maladaptive coping. Extraversion's ability to reduce maladaptive coping is consistent with past literature since extraversion promotes active coping and seeking social support (Panayiotou et al., 2014). However, it was unexpected that our analysis found extraversion was a protective factor during COVID-19. Individuals scoring above average in extraversion may have been more motivated to seek alternative connections during the pandemic, helping those facing sexual abuse find support beyond their caregivers.

Further, agreeableness increasing maladaptive coping is not consistent with previous findings, since scoring higher in agreeableness is consistent with the maturity principle. This principle suggests that higher agreeableness fosters adaptive functioning, of which maladaptive coping is absent (de Moor et al., 2023). Our findings may differ due to the structure of our statistical analysis. In our research, we are investigating the interaction between sexual abuse and agreeableness in relation to maladaptive coping mechanisms. Thus, examining personality in the context of sexual abuse, agreeableness' ability to influence one's acceptance of a situation may be maladaptive since it limits their motivation to seek support (Panayiotou et al., 2014).

Surprisingly, however, we did not find statistically significant effects for negative emotionality. Previous literature demonstrates that abuse and neglect subtypes increase negative emotionality (Grusnick et al., 2020) and the use of maladaptive coping mechanisms (Sheffler et al., 2019). The current study may not reflect these results due to the structure of its statistical analysis. Past research has neglected to investigate personality as a moderator, which could alter negative emotionality's relationship with trauma history and maladaptive coping.

### **Adaptive Coping**

When evaluating the utilization of adaptive coping mechanisms, our results indicate that in the context of emotional or physical abuse, conscientiousness decreases adaptive coping. This finding diverges from previous literature. However, during the pandemic, conscientiousness' relation to seeking social support may not have aided individuals in managing stress due to the limitations the pandemic placed on human connectedness (Melegari et al., 2021). Thus, due to the social impacts of conscientiousness in this context, individuals high in this personality trait may have experienced struggles similar to extroverts during the pandemic.

Further, in the context of physical abuse, our results indicate that, like conscientiousness, extraversion decreases adaptive coping. These results are consistent with previous research that demonstrates COVID-19 significantly impacted individuals' high in extraversion by constraining human interaction (van Loon et al., 2021; Jones et al., 2022); therefore, limiting extroverts' ability to utilize adaptive coping mechanisms, such as seeking social support (Panayiotou et al., 2014).

Lastly, in the context of sexual abuse, agreeableness increased the use of adaptive coping. In our assessment of maladaptive coping, the opposite was found to be true; however, it is consistent with prior research that suggests a link between agreeableness and seeking social support (Panayiotou et al., 2014). This contradiction may result from COVID-19 and its impact on social connectedness. Perhaps agreeableness was both a protective factor and a risk factor during the pandemic since it is a trait that encourages individuals to seek social support; however, due to the limitations COVID-19 placed on in-person interaction, relying purely on social support may have been ineffective to reduce stress during the pandemic.

### **Avoidant Coping**

When evaluating avoidant coping, our results indicate that in the context of emotional abuse, conscientiousness decreases avoidant coping. According to previous findings, conscientiousness may increase active problem-solving (Panayiotou et al., 2014). This concept gains support in our study finding that conscientiousness decreases the use of avoidant coping. In this instance, whether the reduced use of avoidant coping is adaptive depends on the context an individual is in. We expected to generate more than one statistically significant result related to avoidant coping and trauma subtype since previous literature establishes that the more trauma one encounters, the more frequently they tend to utilize avoidant coping mechanisms (Sheffler et al., 2019).

However, our findings may differ from previous results because personality served as a mediator in our analysis. Additionally, since the rate of trauma in our study is representative of a community sample and is not enriched for trauma, our sample may be less likely to develop a strong reliance on avoidant coping.

## **COVID-19**

Something unique about the current study is the strength of its results. Although past literature identifies existing relationships between our variables, our results suggest a stronger relationship between them than most findings. This strength may rely on the context of COVID-19. We suggest that COVID-19 sets our results apart since it may have functioned as a stressor severe enough to override other underlying factors impacting the relationship between personality, trauma history, and coping mechanisms. Thus, COVID-19 may have provided the context needed to strengthen existing relationships between these variables, allowing for the strength of our results.

Additionally, since we discussed the limitations of the protective effects of extraversion during COVID-19, we would like to address a common counterargument: that online communications can substitute in-person human connection. Individuals high in extraversion actively seek opportunities for social engagement and enjoy social activities and interpersonal relationships (Gniewosz, 2023). Thus, the restrictions COVID-19 placed on in-person interaction affected extroverts' feelings of loneliness. Loneliness commonly occurs when there is a difference between the kinds of social relationships one currently has and the ones they desire (Gniewosz, 2023). Although online communication was available during COVID-19, it may have been insufficient to satisfy extroverts' need for human interaction, resulting in feelings of loneliness. Short-term episodes of loneliness are manageable; however, the longer and more

frequent these episodes become, the more prone an individual is to adverse mental and physical health outcomes (Gniewosz, 2023). Therefore, when evaluating our study's results, COVID-19 may aid in explaining those inconsistent with previous literature.

### **Limitations and Future Directions**

Due to the correlational nature of our study, our ability to make assumptions about causality was minimal. Additionally, since the current study did not include covariates in its statistical analysis, factors affecting personality's ability to moderate the relationship between trauma history and coping mechanisms may have gone unaccounted for. Moving past our study design, one limitation may lie in the age of our participants. Given our participants' relatively young age, their experiences with trauma may not have had sufficient time to shape their personalities and coping styles, thus limiting our study's ability to fully capture the ramifications of childhood trauma on our sample. Another limitation of our study lies in the relative novelty of researching adolescent personality. Since this area of study is fairly new, there are still empirical gaps in understanding adolescent personality as developmental psychology transitions from using temperament to classify differences in adolescent behavior and begins to recognize the more stable nature of their personalities. Lastly, since participants had to complete the Kid-COPE questionnaire at home due to COVID-19, their parents may have influenced their responses, leading to response bias.

Future research should focus on recruiting a more racially diverse sample. Although our sample was representative of adolescent girls in Lane County, Oregon, more research is needed to extend the generalizability of our findings. It is crucial to understand the effects of COVID-19 beyond our sample of majority white, adolescent girls, especially considering COVID-19 amplified health inequities between racial groups in the United States (Watson et al., 2020).

Including more covariates in future research is essential to continue understanding the relationship between personality, trauma history, and coping mechanisms. Furthermore, a measure of baseline mental health could be included in future research to better understand how these three variables relate to adolescent well-being. The current study relies on previous literature to make assumptions about how these variables affect mental health, so adding this measure could both expand and complicate this study's findings. Lastly, future research may consider exploring the interactions between trauma history and personality for each item included in their coping measure. For instance, it may be worth investigating how agreeableness moderates the relationship between sexual abuse and the item “I talked about my feelings with others, like family, friends, or trusted others,” included in the Kid-COPE measure used in this study. Understanding the items adolescents use to engage in maladaptive, adaptive, or avoidant coping may be essential to inform intervention efforts.

## **Interventions**

Since adolescents, especially adolescent girls, were particularly vulnerable to the adverse effects of the pandemic (Foster et al., 2023; Moccia et al., 2020; Melegari et al., 2021), and climate change continues to increase the probability of experiencing another pandemic in our lifetime (Oliveira & Tegally, 2023), intervention efforts must start considering how to better support adolescents during the next pandemic. Future intervention efforts should consider targeting adolescents' coping mechanisms since specific mechanisms can prevent traumatized individuals from experiencing adverse outcomes (Sheffler et al., 2019). One way to accomplish this is by stressing the importance of coping flexibility. Different coping strategies are adaptive in different situations, depending on the nature of the stressor (Sheffler et al., 2019). Thus, by teaching adolescents a variety of coping mechanisms, being isolated from outside support during

future pandemics may be less traumatizing when they are aware of different strategies to cope with stress aside from social support.

## **Conclusion**

A majority of our results aligned with past literature. Most divergences resulted from the limitations the pandemic placed on social interaction. For instance, extraversion functioning as a risk factor for the decreased use of adaptive coping in the context of physical abuse, highlights the significant role personality played in moderating the relationship between trauma history and coping during COVID-19. Being extroverted influences someone to seek social support (Foster et al., 2023; however, when extroverts cannot seek the social support they desire, this adaptive trait may not be as adaptive. Thus, intervention efforts should stress coping flexibility, equipping individuals with a more diverse set of coping skills and teaching them the appropriate situations to utilize them.

As the probability of experiencing more isolationist events, like COVID-19, increases, we must continue to research the pandemic's effects so vulnerable populations, such as adolescent girls, are less negatively impacted by future climate disasters. The COVID-19 pandemic is a cautionary tale of how our negligence of the environment and our refusal to acknowledge its impact can affect the youth of our society. Adolescence is a time in someone's life when peer relationships become paramount and, especially for girls, become the people they turn to in times of crisis. However, during times of isolation, turning to peers for support may not be possible, so we must prepare adolescents for this possibility by equipping them with a range of coping strategies. Thus, we must heed the warning COVID-19 gave by continuing to research its effects, ensuring the preparedness of intervention efforts to support adolescents during the next pandemic.

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