ADOLESCENT SOCIAL ANXIETY AND PERCEIVED SOCIAL SUPPORT: BEFORE AND AFTER COVID-19 LOCKDOWN

by

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A THESIS

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

May 2022

An Abstract of the Thesis of

Kayalin Abendroth-Jones for the degree of Bachelor of Science
in the Department of Multidisciplinary Science to be taken June 2022

Title: Adolescent Social Anxiety and Perceived Social Support: Before and After
COVID-19 Lockdown

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Social anxiety is a common subset of anxiety and often starts to affect individuals at a young age. The occurrence of the Coronavirus disease 2019 (COVID-19) pandemic caused unprecedented social conditions for many adolescents and may have affected those with social anxiety differently than those with lesser symptoms. This study examined the predictability of future social anxiety levels in 103 female adolescents based on changes in perceived social support during the COVID-19 pandemic. It used a model of analysis with two timepoints (one before Lane County COVID-19 lockdown, and one after the onset of lockdown), and two rating scales: the Revised Self Consciousness Scale for children (RSCS-C) and the Multidimensional Scale of Perceived Social Support (MSPSS). Both changes in perceived social support and past social anxiety levels were shown to be significant predictors of future social anxiety levels in the participant population.

Acknowledgements

The creation of this thesis would not have been possible without the kindness and generosity of all of those around me throughout this process. For that I would first like to thank my Thesis Committee: my Primary Thesis Advisor, Dr. Jennifer Pfeifer, for her guidance and access to the wonders of the Developmental Social Neuroscience lab at the UO, my Clark Honors College Representative, Professor Liska Chan, for her candor and kind words leading up to my defense, and my Second Reader, Dr. Jeffrey Measelle, for his flexibility and invaluable recommendations.

I would next like to thank all of the members of the Developmental Social Neuroscience lab but predominantly Clare McCann and Sarah Dembling for being my mentors, editors, and statistics wizards as I learned how to use the data I was working with.

Finally, I would like to thank my mom, Francena Abendroth, for motivating me through periods of writers' block, and spending generous amounts of time editing my writing with me.

My thesis truly would not be where it is if not for every single one of these people and for that I am forever appreciative.

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Introduction

Anyone who has given a stressful presentation, taken an important test, or made a life-altering decision is likely familiar with feelings of anxiety. Such feelings or symptoms can include restlessness, difficulty concentrating, uncontrollable feelings of worry, and difficulty falling or staying asleep (*Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; *DSM-5*). In some individuals, those symptoms impact their quality of life to an extent that they can be diagnosed with an anxiety disorder. There are multiple different types of anxiety disorders such as Generalized Anxiety Disorder (GAD), agoraphobia, and Social Anxiety Disorder (SAD), each with their own criterion identified by the *DSM-5*.

Social anxiety is one of the most common subcategories of anxiety (Kessler et al. 1994). It is characterized by feelings of anxiety that are exacerbated in social settings such as a classroom, a work meeting, or an interview. One variable that affects the impact of social anxiety is the level of social support the individual perceives they have. This can be referred to as perceived social support (PSS). There is evidence that individuals who experience major, stressful life events may perceive levels of social support differently than they do outside of a stressful event (Norris & Kaniasty, 1996). Such findings suggest the possibility of a relationship between changes in levels of PSS and changes in social anxiety in adolescents during the Coronavirus disease 2019 (COVID-19) pandemic.

The occurrence of the COVID-19 pandemic from 2019-present has had an immense effect on social interactions worldwide, and one can infer that it may have also affected how adolescents with social anxiety experience social situations and social

isolation, especially during the pandemic itself. Given the fairly recent onset of this event, there is much that needs to be studied. Relevant longitudinal studies that have collected data both before and during the pandemic will provide a novel understanding of the effects of social isolation on this population.

The intent of this thesis is to draw attention to any changes in adolescent PSS after the onset of the COVID-19 pandemic lockdown (November 2020-February 2022) compared to a time before the pandemic lockdown (August 2018-February 2020) in an attempt to predict changes in social anxiety levels using reported PSS. It uses longitudinal data from the Developmental Social Neuroscience Lab at the University of Oregon to answer the following questions: *How has the pandemic affected social anxiety levels in female adolescents? Can changes in perceived social support scores predict changes in social anxiety levels during the pandemic?*

Background

General and Social Anxiety

General Anxiety

Anxiety is the body's reaction to a stressful situation or the anticipation of such a situation. Minor symptoms can be common during day-to-day stressors, but there are varying degrees of severity and frequency that determine whether an individual is experiencing normal or abnormal levels of symptoms. Those who experience symptoms outside of the normal range may have an anxiety disorder, defined as "excessive anxiety and worry (apprehensive expectation), occurring more days than not for at least 6 months, about a number of events or activities (such as work or school performance)" (*DSM-5*).

Anxiety disorders are a common form of mental illness and often begin earlier than other conditions such as substance use disorders or mood disorders (Kessler et al. 2005). Anxiety disorders have a median onset age of 11 years compared to 20 and 30 years for substance use and mood disorders respectively (Kessler et al. 2005). This suggests that adolescents even younger than 11 years old are experiencing abnormal levels of anxiety, making adolescents a prevalent population for studying anxiety.

Social Anxiety

Social anxiety, also known as social phobia, is one of the most common subcategories of anxiety (Kessler et al. 1994). Like most anxiety conditions, it usually originates early in life (Kessler et al. 2005, Stein 2008) - about 50% of individuals with social anxiety report symptoms by age 11, and 80% by age 20 (Stein 2008). It is

characterized by fear or anxiety about social situations that expose the individual to possible scrutiny and rejection by others, or that carry a risk of embarrassment and humiliation (*DSM-5*). For some individuals, social anxiety may lead to avoidance of social situations such as attending class, work, or events in public. For others, their anxiety is more likely triggered by giving performances such as those during competitions, public speaking, or a musical solo (NIMH). An important distinction here is that an individual can experience anxiety about social situations without having social anxiety disorder, but the line between shyness and social anxiety is often blurry and requires a formal diagnosis.

Additionally, social anxiety disorder has been linked to an increased risk of development of other disorders, most commonly other anxiety and affective disorders (Fehm & Wittchen, 2004). It is frequently found to be comorbid with conditions such as depression, general anxiety, and panic disorder (Schneier, Johnson, Hornig, Liebowitz, Weissman, 1992). Social anxiety was also shown to be related to a decrease in the individual's quality of life even beyond social settings (Fehm, Beesdo, Jacobi, Fiedler, 2008). Individuals with SAD demonstrate lower academic attainment and workplace productivity (Eng, Coles, Heimburg, Safren, 2005, Schneier et al. 1994), and less likelihood of being married (Schneier et al. 1992) than those without SAD.

It's also possible that the sex of an individual is related to the likelihood of the development of SAD but results so far have been inconsistent. In 1992, epidemiological surveys found that SAD is more common in females than males, but clinical samples showed a more even distribution between sexes (Schneier et al. 1992). A different study with adolescents found that girls reported more social anxiety than boys (La Greca &

Lopez, 1998). More recently, it was found that there were sex differences but only in certain categories such as "criticism and embarrassment", and "interactions with the opposite sex" (Caballo et al. 2014), but additional research on social anxiety in both sexes is necessary for a better understanding of sex relevance.

The etiology of social anxiety in adolescents is still unclear and varies between individuals, but there is evidence that environmental factors such as adverse life events, family circumstances, and culture can have a significant effect on the likelihood of its development (Brook & Schmidt, 2008, Spence & Rapee, 2016). Examples of adverse life events include family death, illness, and natural disasters (Brook & Schmidt, 2008). With such findings, a relationship between changes in social anxiety levels and a worldwide pandemic would not be surprising.

COVID-19 and Social Anxiety

During the winter months of 2019, a major change to the social lives of the world's population began. On March 11th, 2021, the World Health Organization declared COVID-19 a global pandemic. It caused school shutdowns, required quarantines from family and friends, and increased worry and social isolation. The effects varied depending on the country, but none were left undisturbed. For most adolescents in school in the US during this time, many classes were moved to an online format in which teachers gave lectures in a recorded or live video format, and classmates were only seen through a screen, if at all. The eventual production and distribution of vaccines slowly allowed for the return of some normalcy, but residual effects remained for many individuals. This uncharacteristic social isolation raises the

question of the pandemic's effects on the wellbeing of adolescents with social anxiety during this time.

Previous studies have already shown that social isolation is moderately-strongly associated with social anxiety (Richardson et al. 2019, Matthews et al. 2015, Jackson & Cochran 1991). In a rapid analysis looking at 63 studies on social isolation and/or loneliness and mental health, results suggested that the social isolation caused by COVID-19 preventative measures could lead to an increase in negative mental health symptoms in adolescents, including those of social anxiety (Laudes et al. 2020). Such results lead us to believe that there is likely a connection between increased levels of social anxiety symptoms and the onset of social isolation due to the pandemic lockdowns.

COVID-19 and Perceived Social Support

Perceived social support (PSS) is closely linked with both social and general anxiety. Social support can be described as the presence of help, assurance, or support that an individual receives from the social network around them, and this network can include friends, family, a partner, and pets (Allen, Blascovich, & Mendes, 2002). Knowing that one has a mutually supportive group has a positive effect on one's mental and general wellbeing. In fact, during a stressful event, perceived social support often has a greater effect on an individual's mental health than the actual social support received (Prati & Pietrantoni, 2010). PSS and general anxiety have been shown to be negatively associated with each other even amidst the COVID-19 pandemic (Ozmete & Pak, 2020), and higher levels of PSS from classmates have been associated with lower

levels of social anxiety in adolescents (La Greca & Lopez, 1998, Festa & Ginsberg, 2011).

For the intent of this thesis, we wanted to know if the unprecedented social isolation created by the COVID-19 lockdowns led to changes in the reported level of perceived social support in our adolescent sample. If PSS changes occurred from one time point to another, we hypothesized that we could predict changes in reported social anxiety levels between the two time points based on the magnitude of those changes in PSS.

Measures

In order to measure PSS and social anxiety over time, two self-report scales were used. The Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet et al. 1988) for PSS, and the Revised Self-Consciousness Scale for children (RSCS-C) (Abrams, 1988) for social anxiety. Further description of these scales is located in the Methods section.

Methods

Participants and Time Points

Participants

The present study used previously collected data from the Transitions in Adolescent Girls Study at the University of Oregon funded by the National Institute of Mental Health. The sample consists of 174 adolescent aged females, recruited at ages 10.0 to 13.0 years old. Recruitment methods included the distribution of letters to schools in the Lane County area, recruitment flyers, and secure databases. The target sample was 5th and 6th graders who were registered as female by the school. The larger study initially recruited 189 participants, but 15 individuals were excluded based on predetermined exclusionary criteria: diagnosed with a developmental disability, psychotic disorder, behavioral disorder; taking psychotropic medication other than stimulants, MRI contradictions, report or suspect being pregnant.

The remaining 174 participants completed up to four waves of data spaced approximately 13-28 months apart. For the purpose of the present study and its above research aims, we included 103 out of the 174 participants from the larger sample who had completed the necessary measures (discussed below) at a time point prior to and following the onset of the COVID-19 lockdown (two time points total). The breakdown of the sample is shown in Table 3 using information collected from parents via self-report questionnaire and in-person interviews. A visualization of the timepoints and ages of participants is shown in Figure 1. Each report was cross-checked for discrepancies. All participants and parents provided written informed consent (parental

consent and participant assent) at each session. Participants were compensated through cash or check at the end of each session. Ethics approval was received by the Institutional Review Board of the University of Oregon.

Time points

We were interested in examining the change in social anxiety levels and perceived social support from prior to following COVID-19 lockdown. Therefore, the time points were selected for their occurrence in relation to the COVID-19 lockdown. The larger TAG study contains up to four time points of data collection, however we were only interested in examining the trajectory of self-report social anxiety as impacted by the COVID-19 lockdown. Therefore, we took each participant's most recent time point prior to the onset and following the onset of the COVID-19 lockdown in Lane County, OR. Throughout this report, the two time points (prior and following) will be referred to as time point 1 (T1) and time point 2 (T2). T1 took place between August 2018 and February 2020, while T2 took place between November 2020 and February 2022. Collectively, these time points took place during waves 2, 3, and 4 of the TAG study. A visualization of the time points compared to participant ages can be found in Figure 1.

Measures

Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet et al. 1988)

The Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet et al. 1988) has been shown to be an adequate measurement for adolescent PSS (Canty-Mitchell & Zimet, 2000, Kazarian & McCabe, 1991). It is a quick, 12-item

questionnaire that uses a 7-point Likert scale to measure PSS in three categories: friends, family, and significant other (SO), each with 4 items. Examples of the items include: "I can count on my friends when things go wrong" for the friends category, "my family is willing to help me make decisions" for family, and "there is a special person who is around when I am in need" for SO. To score each category, the Likert responses are summed and averaged. The lowest score possible for each category is 4, and the highest is 28 (with a higher score indicating a higher level of PSS). As such, the lowest total PSS score is 12 and the highest is 84. Scores between 12-35 indicate low PSS, 36-60 indicate medium PSS, and 61-84 indicate high PSS (Zimet et al. 1988). To determine reliability of the surveys at each point of data collection (waves 2-4), Cronbach's alpha (Cronbach, 1951) was run using the coefficient alpha package in programming language R (Zhang & Yuan, 2014, Zhang & Yuan 2020). For waves 2-4, the reliability values were 0.90, 0.91, and 0.87 – all indicating good reliability.

Self-Consciousness Scale revised for children (RSCS-C) (Abrams, 1988)

The original Self-Consciousness Scale (Fenigstein, Scheier & Buss, 1975) was designed to measure public and private self-consciousness, as well as social anxiety. It was revised in order to better suit general populations (Scheier & Carver, 1985), and then again to be applied to children (Abrams, 1988). It is a 29-item survey with a 5-point Likert scale. The Revised Self-Consciousness Scale for Children (RSCS-C) is the version we used, and its 29 items are split into three categories: public self-consciousness, private self-consciousness, and social anxiety. Only the social anxiety category is being used for this thesis and includes items such as "I feel scared when I meet someone new", and "I don't like performing in front of other people". To calculate

the social anxiety score, the 7 items in the social anxiety category are summed and averaged. A higher score indicates a higher level of social anxiety. To determine reliability of the survey at each point of data collection (waves 2-4), Cronbach's alpha (Cronbach, 1951) was run using the coefficient alpha package in programming language R (Zhang & Yuan, 2014, Zhang & Yuan 2020). For waves 2, 3, and 4, the reliability scores of RSCS-C were 0.81, 0.84, and 0.88 respectively – again all indicating good reliability.

Covariates

Time Lapses

The amount of time between T1 and T2 for each participant was used as a covariate due to the varying time between pre- and post- onset of COVID-19 lockdown visits. Such a difference in the amount of time that passed between time points for each participant could affect the results.

Age

Participant age was used as covariate due to the varying age of the onset and prevalence of social anxiety in adolescents, as discussed in the background section.

Data Analysis

One of the main goals of this study was to determine if changes in perceived social support between T1 and T2 could predict social anxiety levels at T2. To examine this relationship, we utilized three linear regression models in an attempt to explain the variance in later social anxiety. The dependent variable in all of the models was the self-

reported social anxiety scores following the onset of the COVID-19 lockdown. We applied the linear regression models using the *R* package *stats* (R core, 1969). Age at each time point and lapse in months between the two time points were used as covariates in each model. We compared the reduced model to the full model (model 0 to model 1 and then model 1 to model 2) to assess for best fit.

We also conducted a two-paired t-test to assess overall difference in pre- and post- onset of COVID-19 lockdown social anxiety scores. There was a significant difference between social anxiety scores pre & post onset of COVID-19 lockdown, $t(102)=-4.211, p<0.0001$. On average, participants' mean social anxiety scores increased 0.29 points (95%CI: 0.15,0.42). Additional statistics can be found in Table 1.

Models

Model 0: We first created a model excluding any predictors but including a fixed intercept and our two covariates, age and time lapse.

Model 1: Do prior social anxiety scores predict social anxiety scores post onset of COVID-19 lockdown? To examine this question, we ran a linear regression model including a fixed intercept, prior levels of self-report social anxiety and our covariates.

Model 2: Do changes in perceived social support scores from T1 to T2 predict changes in social anxiety scores post onset of COVID-19 lockdown? To examine this question, we ran a linear regression model including a fixed intercept, prior levels of self-report social anxiety, change in PSS from time point 1 and time point 2, and our covariates.

Results

Model 0: We found that the covariates time lapse and age did not explain the variance in social anxiety - the results were not significant.

Model 1: Prior social anxiety significantly predicted post social anxiety scores demonstrated by the following values: b=0.72, $t(99)$=8.87, p<0.001. In other words, levels of social anxiety prior to COVID lockdown significantly explain the variance in later levels of social anxiety. A visualization of these results can be found in Figure 2.

Model 2: Change in PSS during the pandemic was a significant predictor of post-pandemic social anxiety, even after accounting for participant age and participants' pre-pandemic social anxiety levels: b=-0.13, $t(98)$=-2.05, p=0.04. A visualization of these results can be found in Figure 3. Accounting for the difference in perceived social anxiety improves the predictive utility of the model: $F(1,98)$=4.19, p=0.04. Controlling for age, time between assessments, and pre-COVID social anxiety, a 1 unit increase in mean PSS during the pandemic relative to before the pandemic is associated with a 0.13 unit decrease in mean social anxiety during the pandemic.

Our model comparison found that Model 2 was the best fit - out of all the models, it best explained the variance in post lockdown social anxiety levels. Additional statistics can be found in Table 2.

Discussion

Results

Our results show that adolescent social anxiety did significantly increase between T1 and T2, even when controlling for age and time differences. This supports the idea that the social isolation caused by COVID-19 lockdowns may be associated with an increase in social anxiety symptoms in adolescents, as discussed in the literature (Laudes et al. 2020). Additionally, the negatively correlational relationship between PSS and social anxiety that was discussed also remained true in our study. Adolescents with lower PSS typically had higher levels of social anxiety.

We also demonstrated that both previous levels of social anxiety, and changes in perceived social support between two time points can be used to predict levels of social anxiety at the second time point. Our methodology and models may have the potential to be used in other research with two time points to study changes in social anxiety.

Alternative Method of Analysis

Due to time constraints, we used a regression model of analysis where the outcome variable was the first timepoint following the onset of the COVID-9 lockdown. Alternatively, we could have used a model that would have calculated and used each participant's PSS and SA baselines in order to compare them to the PSS and SA values reported during random intercepts in T1 and T2. Based on how far a participant strayed from their baseline PSS and SA at T1, we hypothesized that we could predict how far they would stray from their baseline at T2. This method would have given more causational results than the chosen method.

Limitations and Confounding Variables

Limitations

One limitation of this study is its correlational nature due to the self-report measures used. When possible, it can be helpful to avoid using self-reports because they often allow for only correlational conclusions (De Jong, 2002), but when necessary, they can provide extremely valuable information about the mental state of an individual. Additionally, certain data can *only* be obtained through self-report methods such as identifying how someone feels or what they are thinking at that moment. Scales like MSPSS and RSCS-C made it possible to measure non-concrete variables like social anxiety and an individual's perceptions of their social network.

Additionally, the two-time point method of study was beneficial for the use of this thesis but may be less reliable than a method that uses more than two time points, or a method that controls for the time lapse more effectively. The participants in our study did not enter or leave lockdown at the same time or during the same waves of the TAG study, and therefore the "pre" and "post" lockdown time points may not most accurately represent the levels of social isolation that our participants experienced at those times. Therefore, future studies with a greater number of time points, and with control measures for time differences between individuals is recommended.

Another limitation of this study is that our sample population, while representative of the Lane County population, wasn't particularly diverse. Descriptive characteristics (for the full TAG study of 174 participants) can be found in Table 3. Future studies in other geographic areas are recommended in order to see how the social isolation caused by COVID-19 affected adolescents from other populations.

Lastly, our sample was entirely female due to the nature of this study's data collection. Due to the conflicting information regarding sex differences and social anxiety, further research on both sexes would be useful in determining the role that sex plays on the development and severity of social anxiety.

Possible Confounding Variables

Social anxiety develops over time so there are bound to be other contributing factors to its development. We know that factors such as culture, emotional intelligence, self-esteem, and frequency of peer victimization can affect precursors to anxiety disorders (Chen, He, & Li 2004, Calero, Barreyro, & Injoque-Ricle 2018, De Jong 2002, Reiter-Purtill et al. 2016), among many others. As aforementioned, sex can also be related (Grills & Ollendick, 2002) but such findings are inconsistent and should be considered in future studies. This thesis did not account for sex differences due to the sample population being entirely female classified.

It's also possible for anxiety-like symptoms to appear as a result of a different disorder. In a study comparing depressed and/or anxious participants, Bernstein & Garfinkel (1986) found that while most participants with anxiety did not report depressive symptoms, many of the participants with depression reported anxiety symptoms. Due to this, future studies should consider the presence of other mental health disorders when analyzing results from the data collected.

Conclusion

This thesis was designed to investigate the usefulness of perceived social support as a predictor for social anxiety levels in adolescents during a time of uncharacteristic social change. Our analysis showed that both changes in PSS and previous social anxiety levels can be used as significant predictors of future social anxiety levels in adolescents during the COVID-19 pandemic.

These findings were reported on in the hopes that they would accomplish a few goals: 1) that our findings lead to increased awareness of social anxiety in adolescents and how it changes during a socially unprecedented time, 2) that they would encourage an increased understanding of the effects of psychosocial stressors (such as that of the social isolation and events of COVID-19) and possible protective factors (such as increased PSS), and 3) that our research would give a better idea of adequate tools to use for predicting social anxiety in adolescents. With what we now know about social anxiety, PSS, and COVID-19, these findings could be useful in future instances of social shifts and events to better predict and protect against adolescent social anxiety.
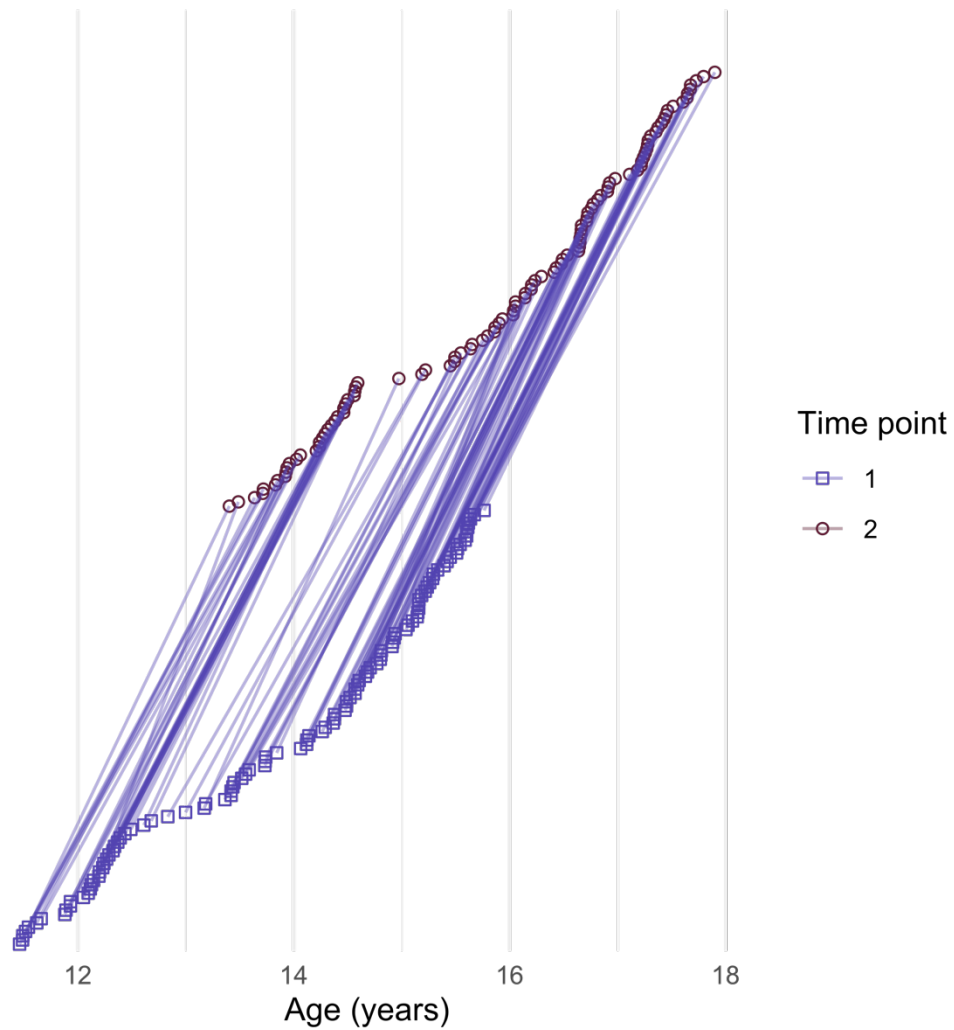
Figures

Figure 1: Participant ages and timepoints

Visualization of participant ages at T1 (pre COVID-19 lockdown) and T2 (post COVID-19 lockdown). Purple squares represent the participant's T1 and magenta circles represent the participant's T2. Each line connecting the two dots represents one participant.
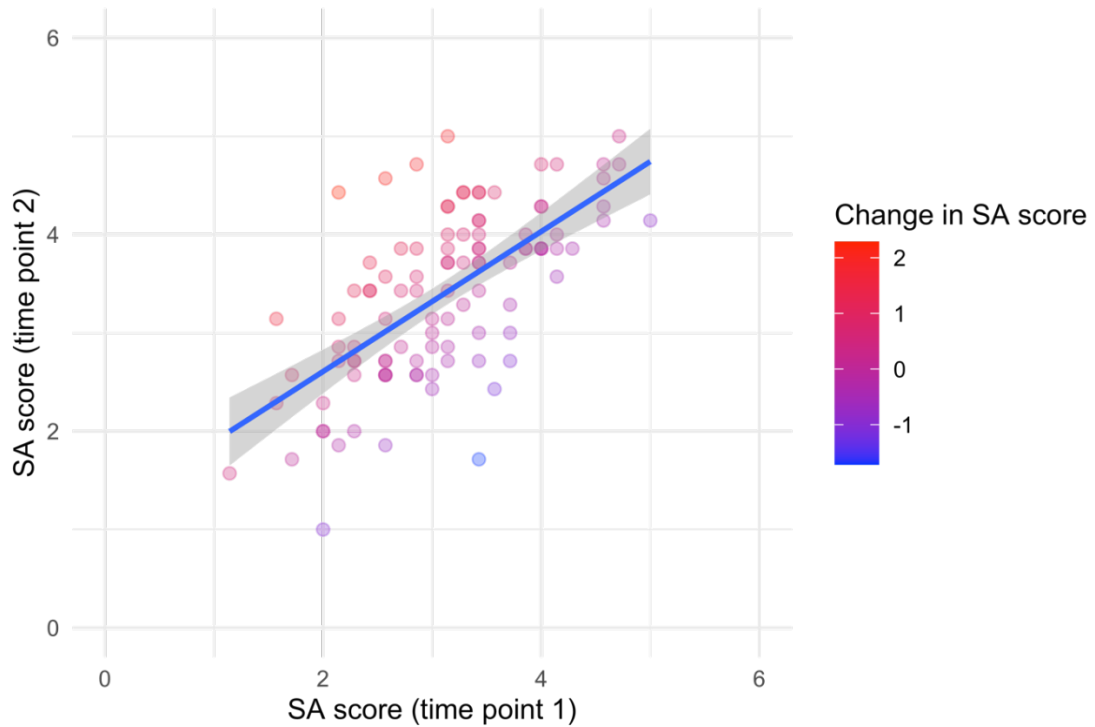
Figure 2: Change in social anxiety scores

This graph shows the change in the RSCS-C average social anxiety score between T1 and T2. Each dot represents a single participant, with average RSCS-C score at T1 on the x-axis and average RSCS-C score at T2 on the y-axis. Red/pink coloring indicates a positive score and purple/blue indicates a negative score with red and blue indicating greater changes in scores. The blue line indicates the trend and the shaded area indicates standard error. The graph shows that prior levels of SA significantly explain variance in later levels of SA, b=0.72, (t(99)=8.87, p<0.0001).
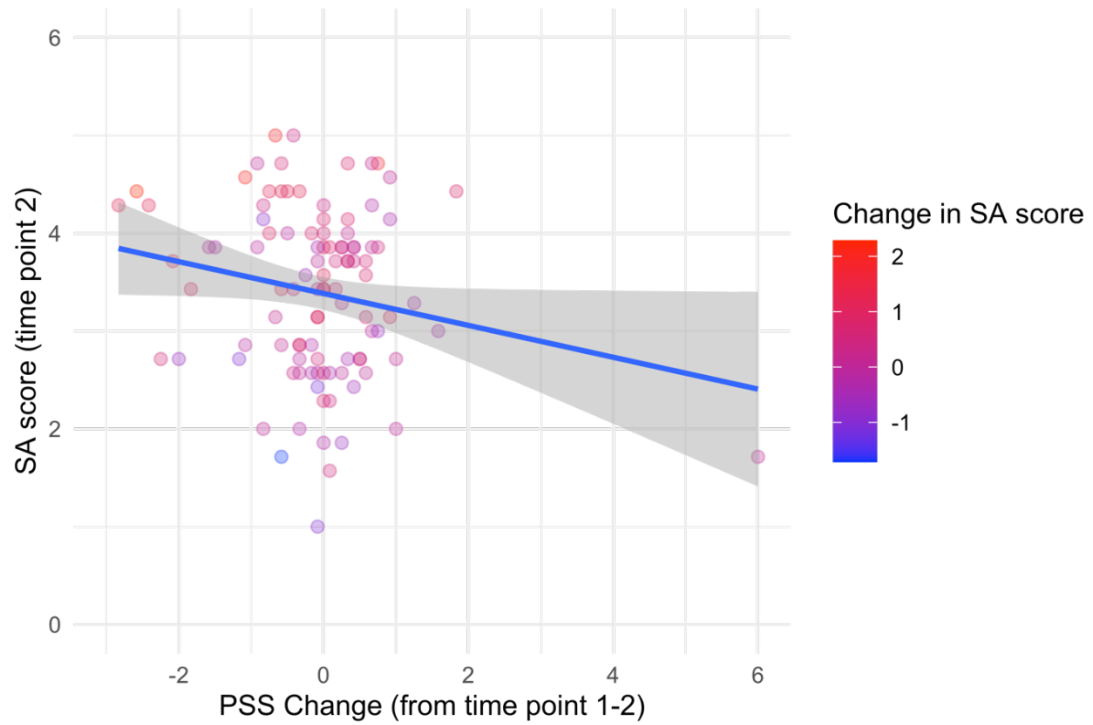
Figure 3: Change in perceived social support and T2 social anxiety

This graph shows the change in average social anxiety scores from RSCS-C at T2 in relation to change in the average MSPSS scores from T1 to T2. Each dot represents a single participant, with their change in MSPSS score between T1 and T2 on the x-axis and average RSCS-C score at T2 on the y-axis. Red/pink coloring indicates a positive score and purple/blue indicates a negative score with red and blue indicating greater changes in scores. The blue line indicates the trend, and the shaded area indicates the standard error. The graph shows that change in PSS score significantly explains variance in later SA scores, b=-0.13, $t(98)$=-2.05, p=0.04.

Tables

Table 1. Descriptive statistics of SA, PSS, Age, and Lapse before and after the onset of the COVID-19 lockdown

	Before onset of the COVID-19 Lockdown (N=103)	Following onset of the COVID-19 Lockdown (N=103)
Social Anxiety Levels		
Mean (SD)	3.11 (0.791)	3.40 (0.863)
Median [Min, Max]	3.14 [1.14, 5.00]	3.43 [1.00, 5.00]
Perceived Social Support Levels		
Mean (SD)	5.67 (0.857)	5.58 (0.913)
Median [Min, Max]	5.67 [1.00, 7.00]	5.75 [3.00, 7.00]
Age (years)		
Mean (SD)	13.9 (1.35)	15.9 (1.31)
Median [Min, Max]	14.3 [11.5, 15.8]	16.2 [13.4, 17.9]
Lapse		
Mean (SD)	24.2 (2.80)	20.5 (4.40)

	Median [Min, Max]	24.5 [13.6, 29.1]	21.6 [11.9, 26.6]

Table 2: Predictability significance (models 0-2)

	Dependent variable:		
	Social Anxiety Levels following the onset of the COVID-19 Lockdown		
	Without Predictors	Model 1	Model 2
	(1)	(2)	(3)
Age	-0.103 (0.078)	-0.090 (0.059)	-0.095 (0.058)
Time between before and following the onset of the COVID-19 lockdown	0.003 (0.023)	-0.010 (0.018)	-0.004 (0.017)
Pre-lockdown Social Anxiety Levels		0.720*** (0.081)	0.709*** (0.080)
Change in Perceived Social Support from before and following the onset of the COVID-19 lockdown			-0.127** (0.062)
Constant	3.340*** (0.485)	1.358*** (0.427)	1.262*** (0.423)
Observations	103	103	103
R^2	0.022	0.455	0.477
Adjusted R^2	0.002	0.438	0.456
Residual Std. Error	0.862 (df = 100)	0.646 (df = 99)	0.636 (df = 98)
F Statistic	1.120 (df = 2; 100)	27.544*** (df = 3; 99)	22.371*** (df = 4; 98)
Note:			*p**p***p<0.01

Table 3: Descriptive statistics of TAG participant population

	N	Percent of total
Race and Ethnicity		
Black or African American	4	2.31%
American Indian or Alaska Native	2	1.16%
Asian	2	1.16%
Native Hawaiian or Pacific Islander	0	0
Multi-Racial Hispanic/Latinx/Chicanx	4	2.31%
Non-Hispanic/Latinx/Chicanx White	119	68.79%
White Hispanic/Latinx/Chicanx	11	6.36%
Asian Hispanic/Latinx/Chicanx	0	0.00%
Black or African American Hispanic/Latinx/Chicanx	1	0.58%
Chicanx/Hispanic/Latinx Not Further Specified	8	4.62%
Non-Hispanic/Latinx/Chicanx Multi-Racial	22	12.72%
Reported Family Income		
Up to $25,000	19	10.92%
$25,000 to $40,000	26	14.94%
$40,000 to $75,000	40	22.99%
$75,000 to $100,000	34	19.54%
Over $100,000	40	22.99%
Don't know	1	0.57%
Decline to respond	9	5.17%

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