



# Social Distancing During A COVID-19 Lockdown Contributes to The Maintenance of Social Anxiety: A Natural Experiment

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## Abstract

**Background** The COVID-19 pandemic has led to extensive social distancing measures. For those suffering from social anxiety, social distancing coincides with a tendency to avoid social interactions. We used this natural experiment imposed by a COVID-19 lockdown to examine how mandated low social exposure influenced socially anxious university students, and compared their anxiety to that of socially anxious students in preceding academic years with no social distancing.

**Methods** Ninety-nine socially anxious students were assessed for social anxiety symptoms at the beginning of the fall and spring semesters. Students from the 2019–2020 academic year (which included a lockdown followed by social distancing measures at the end of the fall semester) were compared to students from preceding years (2016–2019) on social anxiety levels.

**Results** Whereas social anxiety decreased in socially anxious students from the fall to the spring semester in the years preceding the pandemic, during the 2019–2020 academic year social anxiety levels remained high and unchanged. These results held when controlling for depressive symptoms and when analyzing social anxiety items that cannot be confounded with COVID-19-related anxiety.

**Conclusions** The current results suggest that reduced exposure to social situations may play a role in the maintenance of social anxiety. Alternative explanations are discussed.

**Keywords** Social Phobia · Social Anxiety · COVID-19 · Coronavirus · Mental health

## Introduction

Social anxiety is characterized by persistent fear of scrutiny, embarrassment, and humiliation in social situations such as meeting new people, speaking in public, interacting with authority figures, and participating in group activities (Clark, 1995; Heimberg et al., 1989; Stein & Stein, 2008). These social anxieties are typically accompanied by avoidance of social situations (Clark, 1995; Hoffman, 2007). Although individuals with high social anxiety often

feel that by avoiding social interaction they can reduce and control their anxiety, studies have suggested that avoidance contributes to anxiety maintenance as it prevents disconfirmation of negative beliefs (Aderka et al., 2013; Hoffmann, 2004; McManus et al., 2000, 2008; Turk et al., 2001), and increases risk of comorbid depression (Moitra et al., 2008). Accordingly, cognitive-behavioral therapy (CBT) deliberately encourages systematic exposure to social situations to allow patients to experience a natural reduction in anxiety through habituation and learning (Clark, 1995; Turk et al., 2008).

Despite the wide agreement concerning the centrality of social avoidance behavior in social anxiety, inference of its causality in the maintenance of symptoms has been limited. One way to indirectly explore the role of social avoidance in the maintenance of social anxiety is to encourage exposure to feared social situations. Indeed, studies have shown that exposure, whether virtual or in-vivo, is effective in reducing social anxiety symptoms (Anderson et al., 2013; Hindo & González-Prendes, 2011; Kampmann et al., 2016; Powers

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et al., 2008; Rodebaugh et al., 2004). Other studies have attempted direct manipulation of subtle forms of avoidance such as experiential avoidance and safety behaviors (e.g., Kim, 2005; McManus et al., 2008; Morrison & Heimberg, 2013). Instructing socially anxious individuals to engage in safety behaviors, such as avoiding eye contact, led to higher levels of anxiety, poorer performance, and lower positive affect (Langer & Rodebaugh, 2013; McManus et al., 2008). However, to our knowledge, a direct manipulation to increase full behavioral avoidance of feared situations has not been attempted.

A direct inference of the role of avoidance in the maintenance of social anxiety symptoms may have been achieved through randomized controlled trials (RCT) in which socially anxious participants would be randomly assigned to either a social avoidance condition or a no avoidance condition, testing the effects of social avoidance on symptoms. However, as with many risk factors for psychological and psychiatric conditions, conducting RCTs to infer their causality might be both unethical and impractical (Ohlsson & Kendler, 2020). Given the known clinical benefits of systematic social exposure and the practical necessity to interact with others on daily basis, it would be unreasonable to instruct socially anxious individuals to avoid or minimize social interactions for prolonged periods. However, sometimes reality produces natural experiments, in which variables of interest are influenced by social or political factors outside of the researchers' control. In natural experiments with "as-if" randomization the study population is divided into groups without their choice or knowledge, thus approximating RCT designs (Ohlsson & Kendler, 2020). Here we utilize such a natural experiment to study the potential role of avoidance in the maintenance of social anxiety symptoms in a way that could not have been deliberately designed otherwise.

The COVID-19 pandemic has led governments of many nations to implement home quarantine, lockdown, and social distancing policies. In addition to many deleterious consequences, these measures have led to a drastic reduction in exposure to in-person social situations and in some cases to periods of mandatory avoidance of face-to-face interactions. For university students in Israel, this made the 2019–2020 academic year quite distinctive: the fall semester started regularly with in-class lectures and regular face-to-face interactions, whereas the spring semester was conducted virtually during a 2-month lockdown in which people were restricted to their homes except for medical emergencies or purchasing of basic supplies. While these unique circumstances must have had dramatic influence on certain people's physical and mental health, their economic circumstances, and their social support (e.g., Bu et al., 2020; Fernandes, 2020; Ghosh et al., 2020; Pfefferbaum & North, 2020; Usher et al., 2020), they also presented a natural, as-if randomized experiment

to test the effects of mandated avoidance on social anxiety symptoms in highly socially anxious students.

We measured the severity of social anxiety symptoms of students scoring high on the Liebowitz Social Anxiety Scale (LSAS; Liebowitz, 1987) at the beginning of the fall and spring semesters of the 2019–2020 academic year (i.e., before and after the COVID-19-related lockdown), and compared these data to data of socially anxious students from previous years (2016–2019) at parallel time points in which the academic year proceeded normally. Based on the premise that social exposure contributes to a reduction in social anxiety symptoms in socially anxious individuals, we expected that social anxiety symptoms would reduce from the fall to the spring semester in regular academic years, but would remain high and unchanged in the 2019–2020 academic year. To our knowledge, this is the first study to observe the impact of induced prolonged social avoidance on the maintenance of social anxiety symptoms.

## Methods

### Participants

Participants were 99 undergraduate freshmen at Tel Aviv University. Extant data from previous years was used, and inclusion criteria were: (1) a high score ( $> 50$ ) on the LSAS at the beginning of the academic year; and (2) an additional LSAS score collected in the beginning of the spring semester of the same academic year. Data from the social distancing group ( $n = 55$ ) were collected during the 2019–2020 academic year (6 males,  $M_{age} = 22.62$ ,  $SD = 2.36$ ,  $Range = 19–34$ ). Data from the non-social distancing group ( $n = 44$ ) were collected during the preceding academic years (2016–2019), which did not include any social distancing measures (9 males,  $M_{age} = 21.57$ ,  $SD = 1.90$ ,  $Range = 17–25$ ). The smaller sample size of the non-social distancing group is a result of reliance on a limited subset of extant data from studies that collected an additional LSAS measurement during the spring semester. The study was approved by the Tel Aviv University Ethics Committee.

### Data Collection

At the beginning of the fall semester (Time 1) participants were offered course credit or payment for filling out the Liebowitz Social Anxiety Scale (LSAS, Liebowitz, 1987). Participants whose scores indicated high levels of social anxiety (Total LSAS score  $> 50$ ) were contacted again at the beginning of the spring semester (Time 2) and were requested to complete the LSAS again and an additional depression questionnaire in return for additional compensation.

## Measures

Social anxiety was measured using the LSAS, a self-report questionnaire listing 24 social situations, each rated on two sub-scales (level of fear and level of avoidance) ranging 0–3. The LSAS has strong psychometric properties (Baker et al., 2002; Heimberg et al., 1999). Mean Cronbach's alpha in the current sample was 0.87. An inclusion cutoff score was set at 50 as this LSAS score represents an optimal balance between specificity and sensitivity for diagnosis of social anxiety disorder (Mennin et al., 2002). To adapt the questionnaire to the COVID-19 reality, participants were instructed to refer to items describing social interactions even if those interactions were conducted virtually (e.g., via teleconferencing or telephone).

Depression symptoms at Time 2 were measured using the Patient Health Questionnaire (PHQ-9; Kroenke et al., 2001), a 9-item self-report questionnaire ranging 0–27, with higher scores indicating greater depression. Mean Cronbach's alpha in the current sample was 0.89. PHQ-9 data were available for all participants in the social distancing group and for 35 out of the 44 participants from the non-social distancing group.

Finally, the social distancing group self-reported on three additional items focused on potentially acute impact of the COVID-19 pandemic on their personal lives: (1) "Have you lost your job following the COVID-19 outbreak?", (2) "Were you found positive for the COVID-19 virus?", and (3) "Were any of your first-degree relatives found positive for the COVID-19 virus?".

## Data Analysis

To test for potential group differences in social anxiety between the two participant pools from which we drew our high socially anxious samples, an independent samples *t*-test with LSAS total score as the dependent variable was conducted. To assess the influence of social distancing on changes in social anxiety severity we conducted a repeated-measures analysis of variance (ANOVA) on LSAS scores, with time (Time 1, Time 2) as a within-subject factor and group (social distancing, non-social distancing) as a between-subjects factor. Additional ANOVAs were conducted separately for the LSAS sub-scales of fear and avoidance. Because of a potential confound between COVID-19-related anxiety and social anxiety in participants' responses to specific LSAS items (e.g., going to a party, urinating in a public bathroom), we repeated the above-described analyses using only LSAS items that should not have been influenced by health concerns. Items chosen were those describing social situations that should not pose a risk of potential infection, either due to their nature or because they can be conducted virtually (e.g., speaking on the phone

to a stranger; for the full list of selected LSAS items see <sup>1</sup>). In addition, because preliminary analyses indicated between-group differences in age and in Time 2 PHQ-9 depression scores, we performed additional analyses of covariance (ANCOVA) for significant findings, introducing age and PHQ-9 scores as covariates. To gauge the potential impact of acute pandemic-related consequences on our results, we repeated the above-described analyses excluding data from two participants who reported either losing their job due to COVID-19 restrictions or who reported that a first-degree relative was found COVID-19 positive. Finally, because our samples included considerably more females than males, we repeated all analyses using data from female participants only.

## Results

No difference was noted between the LSAS scores of the student pools from which the socially anxious participants in the social distancing ( $n = 333$ ,  $M = 39.24$ ,  $SD = 24.05$ ) and the no social distancing ( $n = 878$ ,  $M = 40.10$ ,  $SD = 20.86$ ) groups were drawn ( $t(1209) = 0.61$ ,  $p = 0.54$ , Cohen's  $d = 0.04$ ).

Demographics and questionnaire data by group are provided in Table 1. The social distancing group was slightly older on average than the non-social distancing group ( $t(97) = 2.40$ ,  $p = 0.02$ , Cohen's  $d = 0.49$ ). In addition, the social distancing group exhibited higher PHQ-9 scores than the non-social distancing group, ( $t(87) = 3.84$ ,  $p < 0.001$ , Cohen's  $d = 0.84$ ). No gender difference was noted between the groups. Among the social distancing group, one participant had lost her job due to the pandemic, one participant reported to have a first degree relative found positive for COVID-19, and none of the participants were found positive for COVID-19 themselves.

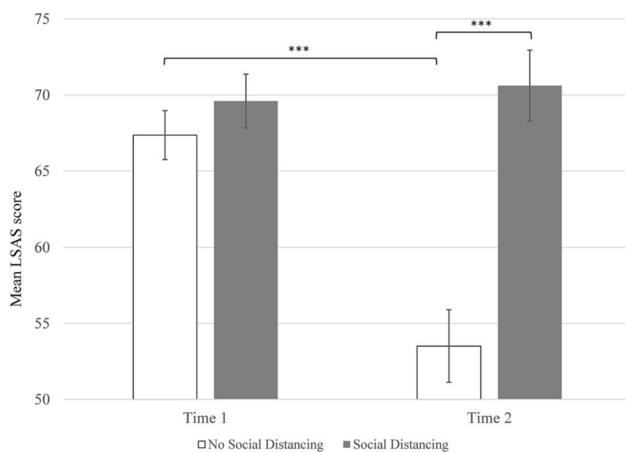
Results for LSAS total scores by group and time are presented in Fig. 1. A group-by-time interaction was noted ( $F(1,97) = 23.99$ ,  $p < 0.00001$ , partial  $\eta^2 = 0.20$ ), indicating differential change across time in the severity of social anxiety between the two groups. Follow-up analyses indicated that while LSAS scores reduced significantly between Time 1 and Time 2 for the non-social distancing group ( $t(43) = 7.4$ ,

<sup>1</sup> The LSAS items that are supposedly unaffected by COVID-19 related anxiety: Telephoning in public; talking to people in authority; acting, performing or giving a talk in front of an audience; working while being observed; writing while being observed; calling someone you don't know very well; being the center of attention; speaking up at a meeting; taking a written test; expressing appropriate disagreement or disapproval to people you don't know very well; looking at people you don't know very well in the eyes; giving a report to a group; returning goods to a store where returns are normally accepted; resisting a high pressure salesperson.

**Table 1** Demographic characteristics and social anxiety symptoms by group at Times 1 and 2

Variable	Social distancing group		Non-social distancing group	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Age (years)	22.62	2.36	21.57	1.90
Gender ratio (W:M)	49:6	–	35:9	–
PHQ-9 (time 2)	11.59	6.63	6.89	3.61
LSAS total score Time 1	69.60	13.13	67.36	10.66
LSAS total score Time 2	70.62	18.65	53.51	15.83
LSAS-fear score Time 1	36.36	7.73	34.16	7.96
LSAS-fear score Time 2	37.86	10.29	27.04	8.78
LSAS-avoidance score Time 1	33.24	7.22	32.82	6.06
LSAS-avoidance score Time 2	33.11	10.90	26.47	8.91

Note. PHQ-9=Patient Health Questionnaire-9; LSAS=Liebowitz Social Anxiety Scale



**Fig. 1** Mean LSAS scores by Time and Group. Higher values indicate higher LSAS scores. Error bars denote standard error of the mean. LSAS Liebowitz Social Anxiety Scale. Time 1 refers to the beginning of the fall semester, whereas Time 2 refers to the beginning spring semester

$p < 0.001$ , Cohen's  $d = 1.12$ ), no change in LSAS scores was evident in the social distancing group ( $t(54) = -0.45$ ,  $p = 0.66$ , Cohen's  $d = -0.06$ ). In addition, no difference was noted between the groups at Time 1 ( $t(97) = -0.91$ ,  $p = 0.36$ , Cohen's  $d = -0.19$ ), and a significant difference was noted at Time 2 ( $t(97) = -5.08$ ,  $p < 0.0001$ , Cohen's  $d = -1.03$ ). Additional analyses using the PHQ-9 as a covariate revealed the same pattern, with a significant group-by-time interaction ( $F(1,86) = 16.86$ ,  $p < 0.0001$ , partial  $\eta^2 = 0.16$ ), no difference between the groups on LSAS scores at Time 1 ( $F(1,86) = 0.01$ ,  $p = 0.92$ ,  $\eta^2 = 0.001$ ) and a significant difference at Time 2 ( $F(1,86) = 15.71$ ,  $p < 0.001$ ,  $\eta^2 = 0.15$ ).

Additional analysis for the LSAS items that are potentially unaffected by COVID-19-related anxiety indicated

similar results, with a significant group-by-time interaction ( $F(1,97) = 18.88$ ,  $p < 0.0001$ , partial  $\eta^2 = 0.16$ ). For the non-social distancing group, LSAS scores reduced significantly from Time 1 to Time 2 ( $t(43) = 6.99$ ,  $p < 0.00001$ , Cohen's  $d = 1.05$ ), whereas for the social distancing group LSAS scores remained unchanged ( $t(54) = 0.44$ ,  $p = 0.66$ , Cohen's  $d = 0.06$ ). No difference between the groups was noted at Time 1 ( $t(97) = -0.38$ ,  $p = 0.71$ , Cohen's  $d = -0.08$ ) and a significant difference emerged at Time 2 ( $t(97) = -3.94$ ,  $p < 0.001$ , Cohen's  $d = -0.79$ ). Results remained similar when introducing the PHQ-9 scores at Time 2 as a covariate.

Analysis using data from female participants only ( $n = 84$ ) revealed similar results, with a significant group-by-time interaction ( $F(1,82) = 25.57$ ,  $p < 0.00001$ , partial  $\eta^2 = 0.24$ ). As in the general analyses, LSAS scores reduced significantly for the no social distancing group from Time 1 to Time 2 ( $t(34) = 7.51$ ,  $p < 0.00001$ , Cohen's  $d = 1.27$ ), with no change in the social distancing group ( $t(48) = -0.55$ ,  $p = 0.59$ , Cohen's  $d = -0.08$ ). No difference between the groups emerged at Time 1 ( $t(82) = -0.11$ ,  $p = 0.92$ , Cohen's  $d = -0.02$ ) and a significant difference emerged at Time 2 ( $t(82) = -4.59$ ,  $p < 0.0001$ , Cohen's  $d = -1.02$ ).

Additional analysis excluding participants who were directly influenced by the pandemic ( $n = 2$ ) also indicated similar results, with a significant group-by-time interaction ( $F(1,95) = 22.66$ ,  $p < 0.00001$ , partial  $\eta^2 = 0.19$ ), no difference between the groups at Time 1 ( $t(95) = -0.71$ ,  $p = 0.48$ , Cohen's  $d = -0.14$ ) and a significant difference at Time 2 ( $t(95) = -4.92$ ,  $p < 0.00001$ , Cohen's  $d = -1.003$ ). LSAS scores reduced significantly from Time 1 to Time 2 for the no social distancing group ( $t(43) = 7.4$ ,  $p < 0.00001$ , Cohen's  $d = 1.12$ ), and no reduction emerged for the social distancing group ( $t(52) = -0.34$ ,  $p = 0.74$ , Cohen's  $d = -0.05$ ).

Separate analyses of the LSAS fear and avoidance subscales revealed significant group-by-time interactions for both (Fear:  $F(1,97) = 22.13$ ,  $p < 0.0001$ , partial  $\eta^2 = 0.19$ ; Avoidance:  $F(1,97) = 12.48$ ,  $p = 0.001$ , partial  $\eta^2 = 0.11$ ). Follow-up analyses indicated no change from Time 1 to Time 2 for the social distancing group on neither of the subscales (Fear:  $t(54) = -0.83$ ,  $p = 0.41$ , Cohen's  $d = -0.11$ ; Avoidance:  $t(54) = 1.00$ ,  $p = 0.92$ , Cohen's  $d = 0.01$ ), whereas scores of both subscales decreased significantly from Time 1 to Time 2 for the no social distancing group (Fear:  $t(43) = 7.60$ ,  $p < 0.00001$ , Cohen's  $d = 1.14$ ; Avoidance:  $t(43) = 5.45$ ,  $p < 0.00001$ , Cohen's  $d = 0.82$ ). No difference between groups was evident in Time 1 for neither of the subscales (Fear:  $t(97) = -1.39$ ,  $p = 0.17$ , Cohen's  $d = -0.28$ ; Avoidance:  $t(97) = -0.31$ ,  $p = 0.76$ , Cohen's  $d = -0.06$ ), whereas a significant difference between groups was noted at Time 2 (Fear:  $t(97) = -5.81$ ,  $p < 0.00001$ , Cohen's  $d = -1.18$ ; Avoidance:  $t(97) = -3.26$ ,  $p = 0.002$ , Cohen's  $d = -0.66$ ).

Introducing PHQ-9 depression scores at Time 2 as a covariate again produced the same results pattern, with significant group-by-time interactions for both scales (Fear:  $F(1,86) = 17.06, p < 0.0001, \text{partial } \eta^2 = 0.17$ ; Avoidance:  $F(1,86) = 7.63, p < 0.01, \text{partial } \eta^2 = 0.08$ ). Differences between the groups remained nonsignificant for both subscales at Time 1 (Fear:  $F(1,86) = 0.006, p = 0.94, \eta^2 < 0.0001$ ; Avoidance:  $F(1,86) = 0.09, p = 0.77, \eta^2 = 0.001$ ), and were significant at Time 2 (Fear:  $F(1,86) = 18.94, p < 0.0001, \eta^2 = 0.18$ ; Avoidance:  $F(1,86) = 7.16, p < 0.01, \eta^2 = 0.08$ ). Repeating these analyses for female participants only and excluding participants who were directly affected by the COVID-19 pandemic revealed the same pattern of results. Results for all analyses also remained the same when age was introduced as a covariate.

## Discussion

This study examined the effects of social distancing on symptom severity over time among socially anxious undergraduate university students in a natural as-if randomized experiment. Results indicate that during a regular academic year with no required social distancing, social anxiety symptoms decreased over time, whereas following social distancing and a lockdown symptoms remained high and unchanged. These results are consistent with extant cognitive-behavioral models of social anxiety, as well as with findings from clinical studies highlighting the importance of avoidance of social situations in the maintenance of social anxiety symptoms (Clark & Wells, 1995; Hoffmann, 2007; Aderka et al., 2013). According to cognitive-behavioral theories, during exposure to social situations corrective information about the feared situation is being learned (Heimberg, 2002), aiding a natural anxiety reduction process to take place (Turk, et al., 2008). Such cognitive processes have been shown to occur even following exposure alone without any additional intervention (Powers et al., 2008; Rodebaugh et al., 2004). It therefore stands to reason that an active restriction of natural exposure through mandated social distancing would prevent such naturally occurring reduction in social anxiety. The current findings strengthen this understanding.

The current findings also correspond with recent findings from research on interpersonal distance, suggesting that socially anxious individuals feel uncomfortable at closer interpersonal distances and tend to avoid them (Givon-Benjio & Okon-Singer, 2020; Kroczek et al., 2020; Perry et al., 2013). Such avoidance and safety behaviors are often perceived by socially anxious individuals as helpful in managing anxiety but may actually be harmful (McManus et al., 2008). The current findings suggest that mandated social distancing may coincide with the personal distancing

preferences of socially anxious individuals but might interfere with naturally occurring symptom reduction.

Notably, while the reduction in symptoms during regular academic years was significant, it did not eliminate social anxiety in the highly anxious students and the average total LSAS score remained above the set clinical threshold of 50. This indicates that although the exposure required by routine daily social interactions may keep certain levels of social anxiety at bay, it is far from sufficient to control such symptoms. Specialized treatments targeting behavioral and experiential avoidance are necessary to achieve significant clinical relief, as supported by different clinical trials (Mayo-Wilson et al., 2014; Powers et al., 2008). It is also interesting to note that fear and avoidance levels were similarly affected by the taken social distancing measures, strengthening the notion that these two aspects of social anxiety (fear and avoidance) are strongly intertwined (Heimberg et al., 1999). It is possible that examining fear and avoidance at multiple time points throughout the social distancing period or at a follow-up time point would have revealed more nuanced relations between the two sub-scales (Aderka et al., 2013).

Certain limitations, stemming mostly from the naturalistic nature of the current study, should be considered. First, the COVID-19 pandemic affected different aspects of daily life and mental well-being making it difficult to reduce its influence to a single factor such as social avoidance (Brooks et al., 2020). Although we could not control for the general stress caused by the COVID-19 outbreak, it appears from the limited data we collected that none of the participants in the study were diagnosed with COVID-19, and over 98% were not affected economically by the pandemic. Excluding participants who lost their job or had a first degree relative diagnosed with COVID-19 from analyses suggested the same results pattern. Second, this study relies on the LSAS, which offers limited evaluation of the underlying reasons for fear and avoidance of social interactions. This limitation of the LSAS is important in the context of the COVID-19 pandemic, which might have caused social withdrawal due to reasons other than social anxiety, and most prominently fear of infection. This alternative explanation is somewhat mitigated given the similar pattern of results obtained when using LSAS items that are unlikely affected by COVID-19-related anxiety. Third, and in the same vein, social anxiety is highly comorbid with other anxiety disorders (Barlow et al., 1986; Davidson et al., 1993; Sanderson et al., 1990) and with depression (Brown & Barlow, 1992; Kessler et al., 1994; Ruscio et al., 2008), therefore, an alternative explanation to the current findings may be that a portion of our participants experienced other comorbid anxiety or depression symptoms, that were potentially enhanced by the pandemic and exacerbated social anxiety symptoms specifically among the social distancing group. Unfortunately, measurements of other anxiety symptoms beyond social anxiety are

not available. This lack of information regarding anxiety comorbidity is a limitation of the current report. The current results do suggest that the observed effects on social anxiety symptoms are not explained by elevated depressive symptoms, suggesting that social distancing played a unique role in maintaining social anxiety symptoms beyond the influence of depression. Fourth, the actual social behavior of participants before and during the mandated social distancing period was not assessed. We relied on the premise that participants in the social distancing group indeed reduced social interactions as instructed, and that participants in both groups had similar social behaviors in the absence of social distancing. It is possible, however, that between-groups heterogeneity existed which was not directly measured. Fifth, instructions for the LSAS were modified for the social distancing group during the spring semester (i.e., to consider virtual encounters as well as face-to-face encounters). In our view, these modified instructions were necessary to capture the unique situation created by social distancing and the extensive use of online rather than face-to-face learning. However, this modification may have affected the results. Finally, the sample size in the current study is modest and the number of male participants is small, factors that might have limited the statistical power to detect more nuanced between-groups and between gender differences. Future studies could examine larger and more balanced samples to ascertain the generalizability of the current findings.

## Conclusions

Although extensive work has been done on the benefits of social exposure for social anxiety symptoms, to our knowledge this is the first study to examine the role of extensively induced behavioral avoidance in the maintenance of these symptoms. Results show that a mandated reduction in social interaction is responsible, at least in part, for disruptions in normal processes of symptom reduction through mundane daily exposure. These results are in line with current theories of social anxiety and highlight the vulnerability of socially anxious individuals to social distancing measures.

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**Authors Contributions** All authors contributed to the study conceptualization and design. Data collection and analysis were performed by GA and DS-L, and reviewed by YB-H. Manuscript writing and preparation were conducted by GA and DS-L, and then reviewed and edited by YB-H. All authors read and approved the final manuscript. Funding acquisition was conducted by YB-H.

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**Data Availability** The datasets generated during and/or analysed during the current study are available in the OSF repository, [https://osf.io/t34yu/?view\\_only=111c547d7e854741a34a8767834afcb1](https://osf.io/t34yu/?view_only=111c547d7e854741a34a8767834afcb1)

## Declarations

**Conflict of interest** The authors declare that they have no conflict of interest.

**Ethics Approval** All procedures performed in this study involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. The study was approved by the Tel Aviv University Ethics Committee.

**Informed Consent** Informed consent was obtained from all individual participants included in the study.

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