COVID-19 Pandemic Experiences: Relationship with Loneliness of Current College Students

LIBERTY UNIVERSITY

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Abstract

Background: Adolescents experienced rapid and unexpected changes during the COVID-19 pandemic that disrupted social interactions. Given the importance of peer relationships for adolescent socioemotional development, youth who experienced more severe restrictions and perceived impact may have been more vulnerable to the development of chronic loneliness (1, 2, 3). The purpose of this study is to explore if a relationship exists between higher levels of life interruptions and stressors experienced during COVID-19 (COVID-19 impact) and loneliness and well-being in undergraduate students at Liberty University.
Methods: Participants came in-lab to complete a measure of loneliness – the Social Connectedness Instrument (SCI), well-being – the PERMA-Profiler, and two novel measures of COVID-19 Impact – COVID-19 Impact Measure (CIM) and COVID-19 Impact Timeline (CIT).
Results: Supporting hypotheses, COVID-19 impact significantly predicted loneliness after controlling for age and sex. Results indicate a negative association between well-being and loneliness. However, significance was not found between COVID-19 impact and well-being.
Conclusions: Students who report greater COVID-19 impact may be experiencing more social anxiety and isolation and are thus more likely to report being lonely. Future studies are needed to further understand the impact of the pandemic on socioemotional development and loneliness, especially in populations of low-income and non-collegiate young adults.

Introduction and Research Questions

The COVID-19 pandemic period was associated with a variety of unexpected and rapid changes that interrupted developmentally expected events and introduced stressors in the lives of adolescents (4, 5). This period was marked by an unprecedented number of high school students experiencing loneliness (3, 7) and mental health challenges, with over 1/3rd reporting poor mental health during the first half of 2021 (8). These students now make up the majority of the student population completing undergraduate degrees. Given the importance of peer interaction on adolescent development, the COVID-19 period may have been a vulnerable period for the development of chronic loneliness (1, 2, 3). However, research on the lasting impact of COVID-19 is lacking – including instruments to properly capture the COVID-19 impact construct. This cross-sectional study aims to explore the relationship between COVID-19 impact, loneliness, and well-being using both qualitative and quantitative methods and includes two novel instruments designed to capture COVID-19 Impact. **Purpose.** To determine if COVID-19 impact – individuals' distinct pandemic experiences – relates to current loneliness and PERMA well-being factors for Liberty University students. The following research questions were investigated using quantitative methods: (1) What is the relationship between loneliness and the five core elements of the PERMA framework and negative emotion; (2) Does COVID-19 impact predict the current loneliness of Liberty University students; and (3) What is the relationship between COVID-19 Impact and the five core elements of the PERMA framework? Additionally, using qualitative methods, key ideas and themes regarding students' perceptions of the COVID-19 pandemic and well-being will be explored in addition to obtaining participant feedback on the novel CIT and CIM measures.

Methods

Participants: 112 undergraduate students at Liberty University. Students were eligible to participate if they were over 18 years of age and were enrolled in a residential/online psychology course. **Study Design:** Non-experimental, cross-sectional study design with mixed methods. Participants were recruited via convenience sampling. Data was collected during the Spring 2024 semester (January-March). **Procedures:** Study data was collected in a research lab on-campus. Participants submitted informed consent electronically and completed the following self-report instruments anonymously using the Qualtrics platform: (1) demographics questionnaire, (2) SCI, (3) PERMA-Profiler, (4) CIT, and (5) CIM. After completing the Qualtrics survey, participants were compensated with one psychology activity credit. A small subset (N = 13) of participants completed semi-structured interviews after the Qualtrics survey. These participants returned signed informed consent documents to the research via email before the interview and were compensated with two additional psychology activity credits.

Table 1

Descriptive Statistics and Correlations for SCI and COVID-19 Impact Instruments

Variable	*M*	*SD*	1	2	3	4	5
1. SCI 1	55.88	13.26	–				
2. SCI 2	9.81	4.86	.565**	–			
3. SCI 3	3.63	2.53	.734**	.461**	–		
4. SCI Total	69.31	18.41	.970**	.734**	.784**	–	
5. CIM	25.04	7.70	.225*	.147	.255*	.236*	–
6. CIT	16.86	5.57	.238*	.201*	318*	.269**	.684**

Note. SCI 1 is the first subscale of the Social Connectedness Instrument (SCI), SCI 2 is the second subscale of the SCI, and SCI 3 is the third subscale of the SCI. SCI Total is the sum of subscale 1-3. *p < .05. **p < .01.

Figure 1

Relationship Between Loneliness (SCI) and COVID-19 Impact (CIT)

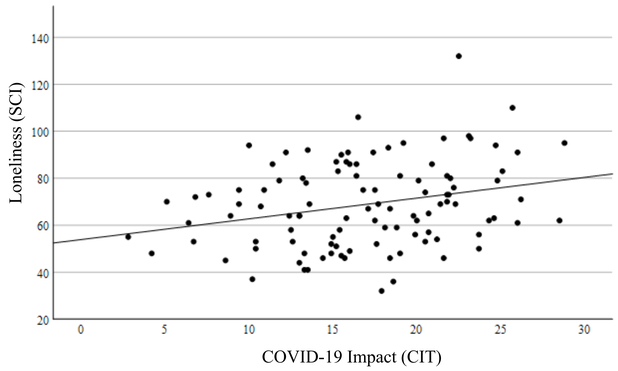

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Table 2

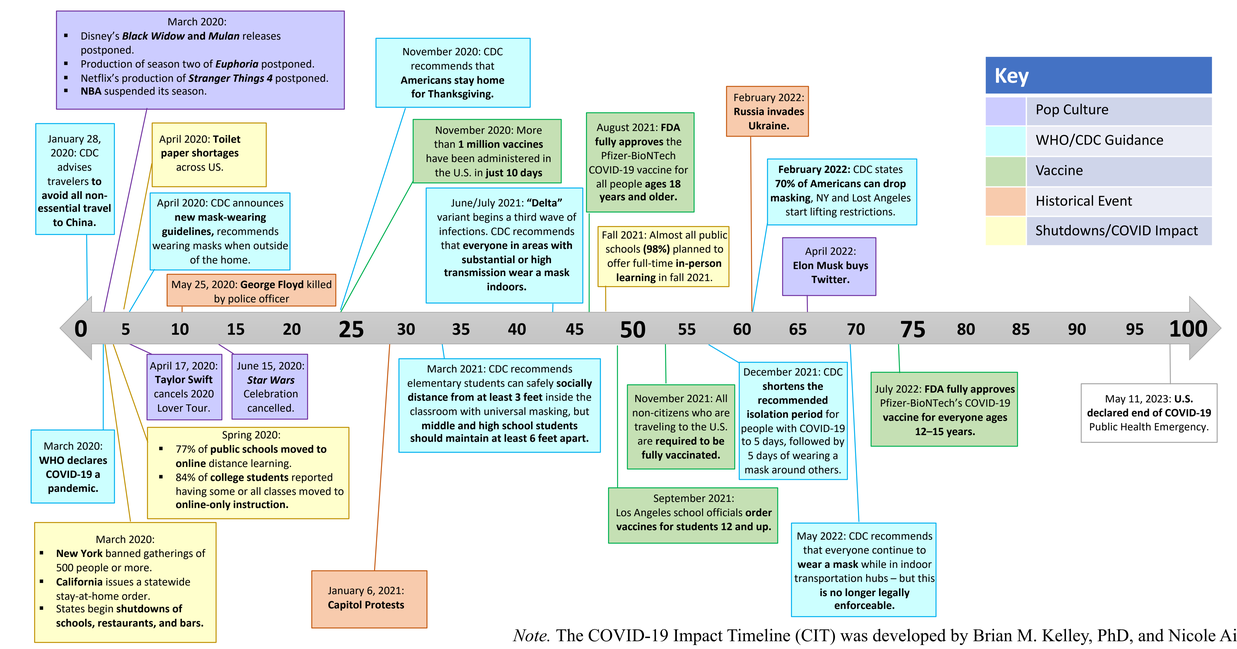
Mean Differences and Rankings for Loneliness Contributing Factors by CIT and SCI Groups

SCI Contributing Factor	Difference Between High and Low CIT		Difference Between High and Low SCI	
	M Difference	Rank	*M* Difference	Rank
Q18 Social Isolation	0.97	1	2.56	3
Q3 Health Concerns	0.81	2	1.09	13
Q7 Social Anxiety	0.78	3	2.71	1
Q1 Geographic Location	0.56	4	1.03	14
Q16 Heavy Emotions	0.56	4	2.53	4
Q17 Lack of Belonging/Purpose	0.56	4	1.62	9
Q6 Lack of Social Skills	0.53	5	1.38	10
Q15 Negative Self-Talk	0.53	5	2.59	2
Q4 Fear of Rejection/Insecurity	0.5	6	2.21	5
Q5 Interests Do Not Match Social Norms	0.34	7	0.94	15
Q14 Social Media/ Technology	0.31	8	1.26	11
Q2 Life Transitions	0.25	9	1.09	13
Q12 Lack of Identity	0.25	9	1.76	7
Q8 Bullying/ Mistreatment	0.22	10	1.65	8
Q9 Conflicting Priorities	0.22	10	1.18	12
Q13 Social Exclusion	0.19	11	1.85	6
Q11 Lack of Social Motivation	0.16	12	1.76	7
Q10 Poor Friends	-0.03	13	0.85	6

Note. Low CIT group = CIT score at or below the 30th percentile; high CIT group = CIT score at or above the 70th percentile. Low SCI group = SCI score at or below the 30th percentile; high SCI group = SCI score at or above the 70th percentile.

Figure 2

COVID-19 Impact Timeline (CIT)



Note. The COVID-19 Impact Timeline (CIT) was developed by Brian M. Kelley, PhD, and Nicole Airesman.

Results and Conclusions

Results: Demographic data indicate 79% of the sample were female, 77% White, 42% were in the School of Behavioral Science, and most (67%) identified as upper-middle class the year preceding the pandemic and lived in suburban communities (62%) during the pandemic. Pearson correlations were used to explore the relationships between SCI, PERMA, CIM, and CIT. Significant correlations supported hypotheses, indicating loneliness, as measured by the SCI, was significantly and negatively associated with PERMA overall well-being (r = -.544, p <.001). Loneliness was also significantly and positively associated with CIM scores (r = .236, p = .012) and with CIT scores (r = .269, p = .006; **Table 1**). Contrary to hypotheses, no significant correlations emerged between any of the PERMA subscales and the CIM/CIT. Separate multiple regression analyses were conducted to predict SCI scores from CIM and CIT scores, controlling for age and sex. **CIM:** The overall regression was significant, $F(5,106) = 4.235$, p = .002. The model explained approximately 17% of variation in SCI scores (R^2 = .167). CIM scores remained significantly predictive of SCI scores, $b_1 = 0.508$, $t(106) = 2.272$, p = .025, sr^2 = .040. **CIT:** The overall regression was significant, $F(5,99) = 5.095$, p = <.001. Approximately 21% of variation in SCI scores could be predicted from the model (R^2 = .205). Greater COVID-19 impact as measured by the CIT significantly predicted higher SCI scores, $b_1 = 0.89$, $t(99) = 2.869$, p = .005, sr^2 = .066.

Exploratory analyses: Potential ways COVID-19 impact contributed to loneliness were investigated via ranked differences in scores between low impact participants and high impact participants for individual items on SCI subscale 1. These individual items each represent a factor theorized to contribute to the experience of loneliness. Ranks were compared to the ranks of less lonely and more lonely participants on the same items (**Table 2**). Compared to low impact participants, high impact participants were more likely to endorse experiencing social isolation, social anxiety, and heavy emotions—contributing factors to loneliness that were also more likely to be endorsed by highly lonely compared to less lonely individuals.

Conclusions:

- LU students who report having been more greatly impacted by COVID-19 may be experiencing higher levels of loneliness.
- Social isolation and social anxiety are factors theorized to contribute to loneliness that may be more present in those with higher COVID-19 impact. Students may be struggling to initiate and form relationships due to disrupted adolescent socio-emotional development. Qualitative findings support quantitative results, with participants indicating interrupted socioemotional development and increased social anxiety. Similarly, a recent systematic review indicates a small but important increase in social anxiety pre- to post-pandemic across the general population (8).

Limitations

- Cross-sectional design
- Small sample size
- Lack of sample diversity
- Use of convenience sampling
- Novel measures: lack of reliability and validity data

Future Work

Recommendations

- Need for research accessing the directionality of the relationship between PERMA well-being factors and loneliness.
- Generalize study findings using non-Liberty University samples, especially low-income, non-collegiate.
- Research should more directly assess potential variables that theoretically link COVID-19 impact and loneliness and are targetable by interventions (e.g., social anxiety, social skills).
- Professors and residential leadership (shepherds, RAs, CGLs) need to recognize students may be experiencing increased social struggles. As such, it is necessary to promote psychologically safe environments and expand resources to help these students connect with their peers.

References

See attached sheet for references