



# The Relationship between Hardiness, Stress, and Mental Health in College Students with Disabilities during COVID-19

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## Introduction

- During the COVID-19 pandemic, college students reported increased stress, which exacerbated mental health symptoms and increased maladaptive coping patterns (Branje & Morris, 2021).
- The purpose of this project is to explore how the psychological construct hardiness relates to the mental health outcomes of college students with disabilities, an understudied population in hardiness research, during COVID-19.
  - Hardiness encompasses a set of attitudes and skills that allow individuals to transform stressful situations into opportunities for growth (Maddi et al., 2009).
  - Hardiness supports mental health during stressful life situations by means of positive appraisal, problem solving behavior, and active coping strategies (Florian et al., 1995).
  - Hardiness is negatively associated with alcohol and drug use, depression, and anxiety among adolescents and young adults (Maddi, 2002).

## Hypotheses

- We hypothesize that hardiness levels reported by disabled college students will negatively correlate with the following mental health and well-being indicators:
  - H1: perceived stress
  - H2: COVID-19 stress
  - H3: anxiety
  - H4: depressive symptoms
  - H5: substance use

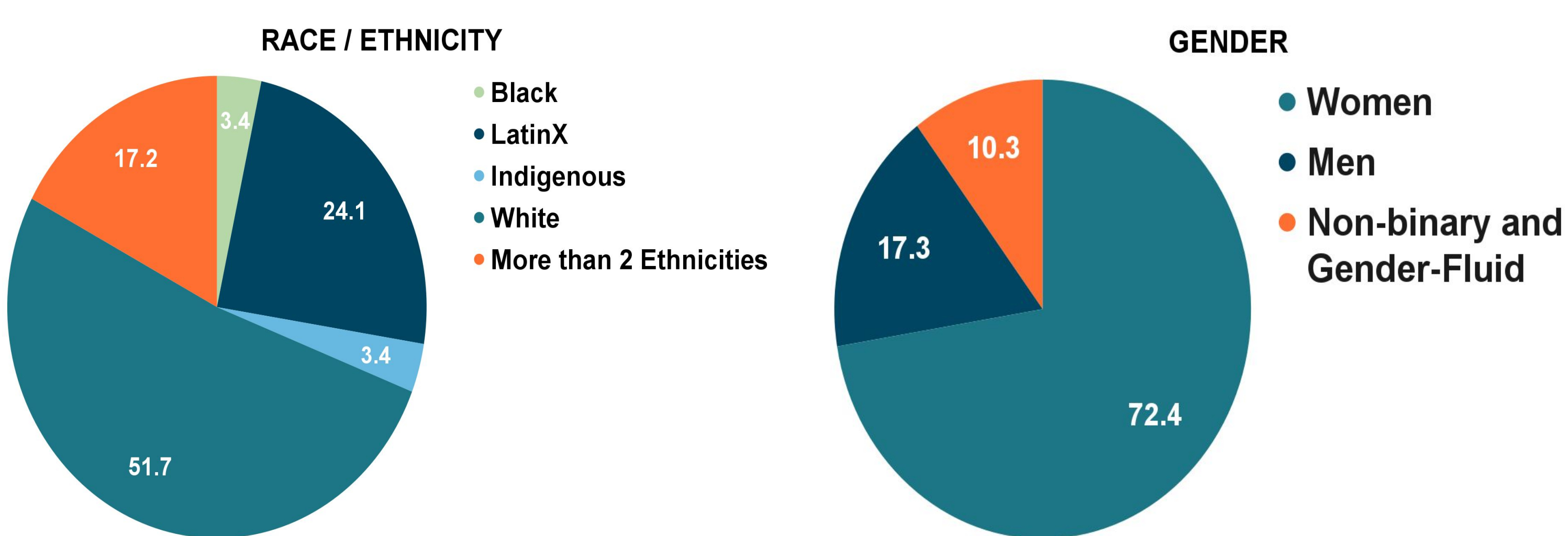
## Method

### Participants & Procedure

- Participants were 29 students from a public university who self-identified as having a disability (see Figures 1-2).  $M_{age} = 23.3$ ,  $SD = 3.1$ ; range 19-33 years.
- Students were recruited from the campus disabilities center via email.
- Participants completed an online survey via Qualtrics during Spring 2021.
- Participants were compensated with a gift card for completing a 20 minute survey.

### Figures 1 and 2

#### Participants' Race/Ethnicity and Gender



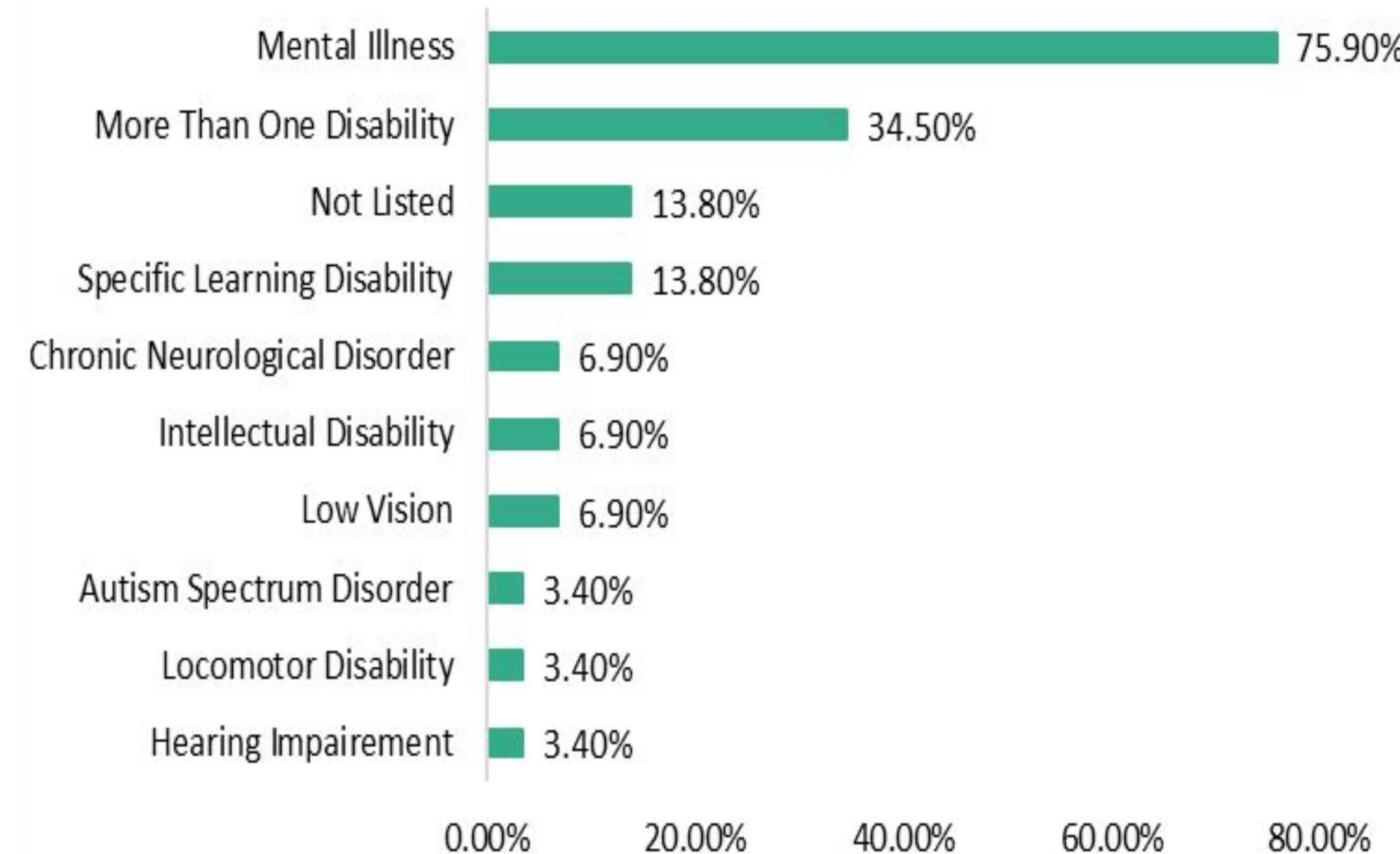
## Measures

- *Personality Views Survey III-R* (Maddi et al., 2006): 18 items assess hardiness: control, challenge, commitment; rated 0 (*not true*) to 3 (*very true*). ( $\alpha = .81$ ).
- *The Perceived Stress Scale* (Cohen & Williamson, 1988): 10 items assess perceived stress; rated 0 (*never*) to 4 (*strongly agree*). ( $\alpha = .77$ ).
- *The COVID-Related Stress Scale* (Taylor et al., 2020): 12 items assess fears, anxiety, and behaviors related to COVID-19; rated from 0 (*not at all*) to 4 (*extremely*). ( $\alpha = .92$ ).
- *The Beck Anxiety Inventory* (Beck et al., 1988): 21 items assess clinical symptoms of anxiety; rated 0 (*not at all*) to 3 (*severely - it bothered me a lot*). ( $\alpha = .88$ ).
- *The Center for Epidemiologic Studies Depression Scale* (Radloff, 1991): 20 items assess depressive symptoms; rated 0 (*rarely or none of the time*) to 3 (*all of the time*). ( $\alpha = .87$ ).
- *The Substance Use Scale* (Center for Disease Control, 1997): 9 items assess use of legal and illegal substances; rated 1 (*not at all*) to 6 (*everyday*). ( $\alpha = .78$ ).

## Results

- See Figure 3 for participants' self-reported disabilities.
  - The most common disability reported was mental illness (approximately  $\frac{3}{4}$  of participants).
  - Just over  $\frac{1}{3}$  of participants reported more than one disability.

**Figure 3**  
Participants' Self-Reported Disabilities



- See Table 1 for means, standard deviations, and correlations between study variables.
  - Participants' anxiety scores fell into the "moderate anxiety" range according to established norms for clinical symptoms (Beck et al., 1988).
  - Participants' depressive symptoms were much higher than the cutoff for "significant" or "mild" depressive symptomatology, which may be indicative of major depressive disorder (Radloff, 1991).
  - Participants' scores of perceived stress were at the highest possible score for "moderate stress" and just shy of "high perceived stress" (Cohen & Williamson, 1988).

**Table 1**  
Descriptive Statistics and Bivariate Correlations for Study Variables ( $N = 29$ ).

Variables	1	2	3	4	5	$M(SD)$
1. Hardiness	--					28.10 (8.27)
2. Perceived Stress	-.45*	--				25.62 (4.75)
3. COVID-19 Stress	-.20	.14	--			21.76 (10.97)
4. Anxiety	-.40*	.49**	.39*	--		25.85 (10.65)
5. Depression	-.41*	.70***	.40*	.67***	--	32.71 (10.41)
6. Substance Use	-.18	.30	.28	.19	-.34	17.03 (7.40)

Note: \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

## Discussion

- There is preliminary support that prior relationships established in the hardiness literature are also found in a sample of disabled college students during COVID-19.
- The results indicate support for three of the five hypotheses.
  - There is a significant negative correlation between hardiness scores and (H1) perceived stress, (H3) anxiety symptoms, and (H4) depressive symptoms.
  - Hardiness scores do not correlate with (H2) COVID-19 stress scores or (H5) substance use reports.
- For our unexpected findings, perhaps hardiness scores were not related to COVID-19-related stress due to the advancements in protection against COVID-19 and access to vaccinations, which may have influenced these relationships.
  - One year into the pandemic, students may have felt more control over their COVID-19-related fears and behaviors.
- The findings around substance use are surprising. A recent study by Casseus et al. (2021) reported a higher prevalence of substance use and misuse in college students with disabilities compared to nondisabled students.
  - Perhaps correlations between hardiness and substance use may have been influenced by social desirability bias.
  - Specific substances may need further consideration (e.g., marijuana).

## Limitations

- Small and non-representative sample collected through online survey design.
- Findings may not generalize in times of less stress and uncertainty.
- College students' anxiety, depression, perceived stress, and substance use may be underdiagnosed or underreported affecting the results of this study.

## Future Directions

- Replication of this study with larger, more representative samples at different colleges.
- Future research can explore if relationships are stronger/weaker for individuals with different disabilities/combinations of disabilities.
- Evaluate the effectiveness of HardiTraining with disabled college students.
  - HardiTraining is an intervention to increase individual hardiness levels.
  - This type of intervention may be especially important during times of unprecedented stress and uncertainty.
- Future studies can make a greater effort to focus on freshpersons and transfer students with disabilities as transitions may be especially difficult for these students.

## Implications

- A greater understanding of how resilience factors like hardiness are related to mental health and well-being allows colleges to better support disabled college students.

## Conclusions

- Results support existing research that higher hardiness scores are related to lower levels of perceived stress, anxiety symptoms, and depressive symptoms in a sample of disabled college students during COVID-19.

## References

- Access references via QR code:

