

Beliefs, Information Sharing, and Mental Health Care Use Among University Students

Alisher Batmanov
UC San Diego

Idaliya Grigoryeva
UC San Diego

Bruno Calderon
ITAM

Roberto González
ITAM

Alejandro Guardiola
Tec Monterrey

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- ▶ Student mental health (MH) – issue of growing concern with depression & anxiety rates ↑
 - ▶ Suicide is a 3rd leading cause of death among 15-29 year olds ([World Health Organization 2021](#))
 - ▶ Distress has serious consequences for educational and economic outcomes ([Ridley et al. 2020](#))
- ▶ Despite effective treatments, > 80% do not receive professional help ([Patel et al. 2018](#))
 - ▶ True even in settings with no supply constraints, e.g. campus counseling ([Acampora et al. 2023](#))
 - ▶ Demand-side factors, e.g. misperceptions about therapy, contribute to gap ([Eisenberg et al. 2007](#))

Research Goals:

1. Identify the treatment gap and belief-driven barriers to MH care use among university students
2. Can addressing misconceptions about MH and therapy increase student willingness to seek help?

What we do: Setting & Sample

- Run a survey experiment with a representative sample of 680 students from a large private university in Mexico

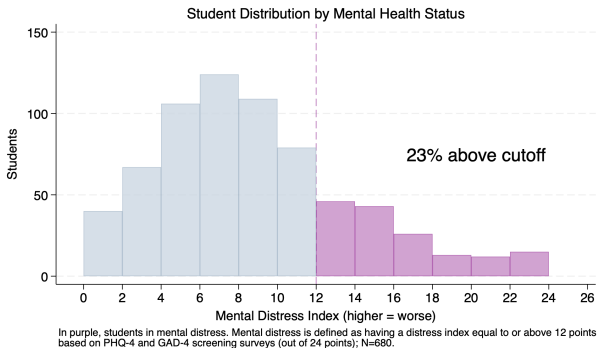
Fields of Study	University population	Student sample
STEM	42%	46%
Business	25%	18%
Medicine & Health	10%	20%
Law, Econ, Government	8%	11%
Creative Studies	8%	3%
Architecture & Environment	7%	2%

- Study sample is representative of the university population by college major, gender

Descriptive Results

Student Mental Health

- ▶ MH distress index: depression (PHQ-4) and anxiety (GAD-4)
 - ▶ In distress if ≥ 12 out of 24 points
- ▶ Substantial prevalence of poor MH: 155 of 680 students (23%) in distress
 - ▶ Relative to 8-10% in adult populations ([Negeri et al.2021](#))
- ▶ Distress more common among third-years+, financially stressed, and non-heterosexual students



Student characteristics

Perceived therapy use

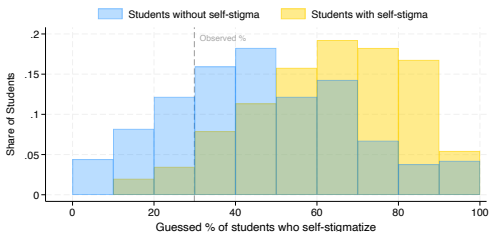
Students' use of professional mental health help in the last 12 months

	Used Prof. Help	No Prof. Help	Total
In Distress	80	75	155 (23%)
Not in Distress	190	335	525 (77%)
Total	270 (40%)	410 (60%)	680 (100%)

- ▶ Half of students in distress had not received professional help in the last year
 - Despite >80% of them agreeing there is good campus support for mental health, and >90% – that therapy can improve their own and others' mental well-being
- ▶ Evidence of stigma surrounding the experience of psychological distress itself
 - Students less open to discussing mental health issues have a 23 pp higher treatment gap

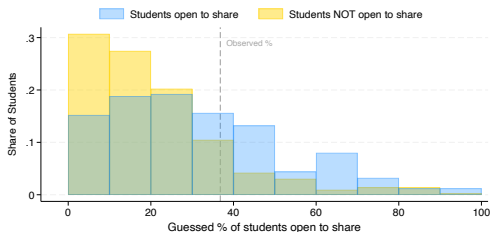
(Mis)Perceptions: Self-Stigma and Openness to Share

(a) Perceived Self-Stigma of MH Distress



Correct share (incentivized Q) = 29.9% (vertical line).
Guess among NO self-stigma = 44.7%,
among those WITH self-stigma = 61.7%

(b) Perceived Openness to Share MH Issues

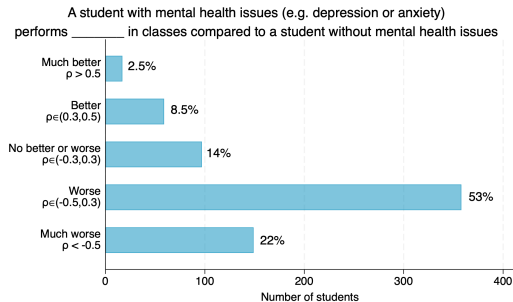


Correct share (incentivized Q) = 36.8% (vertical line).
Guess among NOT open to share = 19.5%,
among those Open to share = 30.1%

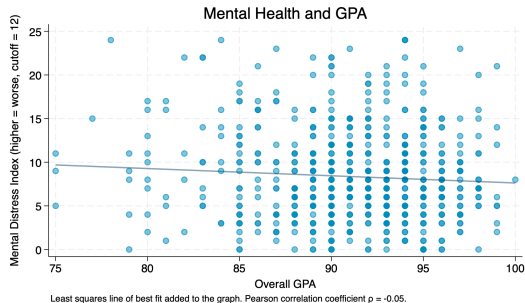
- ▶ Guess % of students who would be disappointed in themselves for having MH issues
 - ▷ 45% (no self-stigma) and 62% (self-stigma) vs. **30% actual share**
- ▶ Guess % of students who would share their MH issues with classmates
 - ▷ 30% (open to share) and 20% (not open to share) vs. **37% actual share**

Perceived Mental Distress and GPA Relationship

(a) Incentivized Student Guesses



(b) Observed GPA & Mental Distress



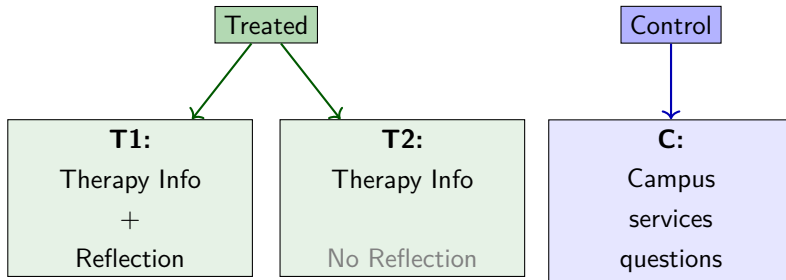
- ▶ 3 out of 4 respondents believe students with mental health issues perform worse academically
- ▶ However, no relationship ($\rho = -0.05$) emerges between the two variables in actual data
- ▶ Treatment gap is larger among students who believe in a negative relationship (51% vs. 33%)

Table: Predicted Effects by Intervention Component

Intervention Component	Own Mental Health	Peer-Directed Behaviors
I1. Therapy Effectiveness	Increases perceived likelihood that therapy leads to doing better ($\uparrow \pi_1$), raising expected benefit from seeking care	Raises perceived benefit of therapy for peers ($\uparrow \pi_1$), increasing resource recommendations
I2. Therapy Users	Reduces internalized and perceived stigma associated with help-seeking ($\downarrow S_s$, $\downarrow S_p$)	Lowers discomfort in endorsing therapy for others ($\downarrow C_r$); reinforces norms around mental health support
I3. Distress and Grades	Normalizes distress and weakens link between symptoms and academic failure ($\downarrow S_p$)	Reduces stigma attached to visible symptoms, potentially increasing openness to endorse therapy

Intervention Design

Survey Experiment – Treatment & Main Outcomes



► Incentivized outcomes to proxy demand for prof. help:

1. Sharing of campus mental health resources (aggregate link click-through rate)
2. Incentivized advice (mentions of therapy in giving advice to a friend)
3. Willingness to pay for a one-month therapy (*BetterHelp*) – for yourself/friend
4. Donation to fund therapy for a student with financial constraints (% of earnings)

Types of Mental Health Stigma

	Beliefs held by me <i>(first-order beliefs)</i>	Beliefs held by others <i>(relate to second-order beliefs)</i>
About myself	Self-stigma <i>I believe I am weak when I am in distress</i>	Perceived stigma <i>I believe others think I am weak when I am in distress</i>
About others	Personal stigma <i>I believe others are weak when they are in distress</i>	Perceived public stigma <i>I believe others think people are weak when they are in distress</i>

1. **Treatment** ($n = 448$) – students in this group were shown three infographics:
 - (i) Therapy effectiveness: a recent study finds that psychotherapy reduces depression even four to five years later
 - (ii) Therapy users: 2 out of 3 students receiving professional help report mild or no symptoms of depression and anxiety
 - (iii) Distress and grades: survey data show no relationship between GPA and distress among students

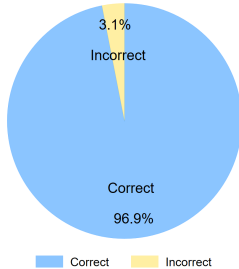
2. **Control** ($n = 232$) – students in the control condition were not shown the infographics

Theory of Change

Information Intervention Components: Prior Beliefs

Prior Belief 1: Long-Run Therapy Effectiveness

Therapy has positive effects on reducing mild and moderate depression symptoms 4-5 years later?

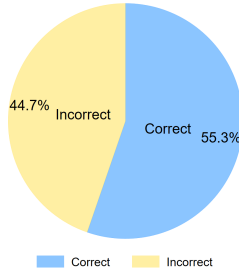


Correct answer:

Yes, positive effects 4-5 years later

Prior Belief 2: Who goes to therapy?

Do most students receiving professional MH support have mild or no symptoms of depression and anxiety?

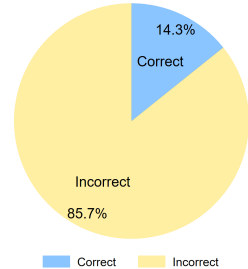


Correct answer:

Yes, most have mild/no symptoms

Prior Belief 3: Correlation between GPA & MH

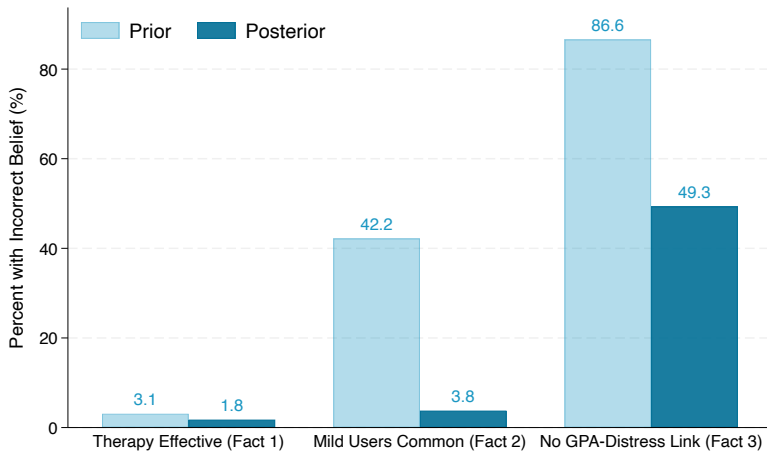
Guess the relationship betw GPA and mental distress across students participating in this survey?



Correct answer:

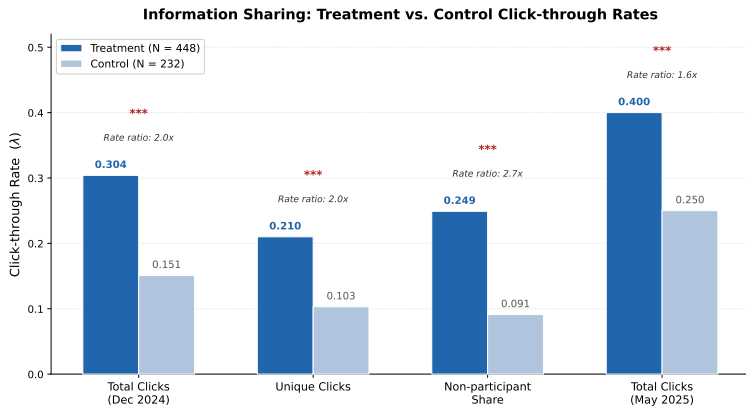
No correlation b/n GPA & Distress

Posterior Beliefs



Intervention Results

Result #1. Information Sharing

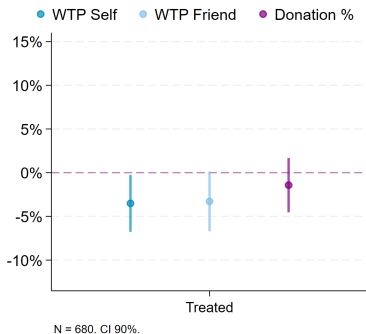


Notes: *** $p < 0.001$ (two-sided Poisson test, approximate and exact). Rate λ = clicks / group size. Non-participant share rate uses share $\times$ total clicks / N.

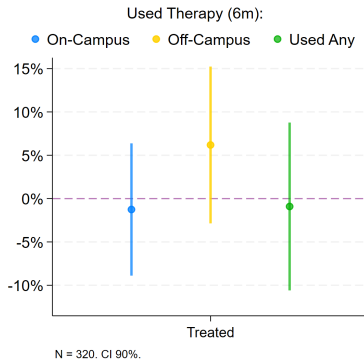
- ▶ Treated students $\uparrow$ info-sharing about campus counseling with friends (1 month, 6 months)
- ▶ Treated students $> 50\%$ more likely to mention on-campus counseling in advice to a friend in distress

Result #2 (1). Short-run WTP for Private Therapy and Long-run Therapy Use

(a) Short run: WTP and Donations



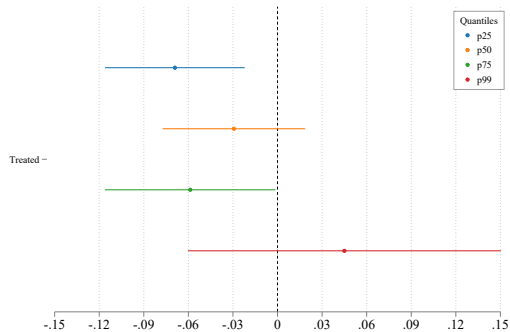
(b) Long run: Therapy use



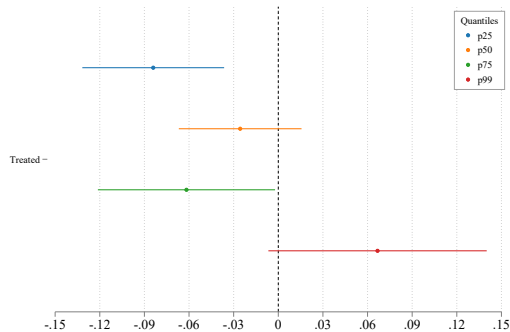
- ▶ Surprisingly, treated participants exhibit lower WTP for private therapy (BetterHelp)
- ▶ This does not translate into a LR reduction in therapy use 6 months after the experiment

Result #2 (2). Lower WTP Driven by Low Demanders

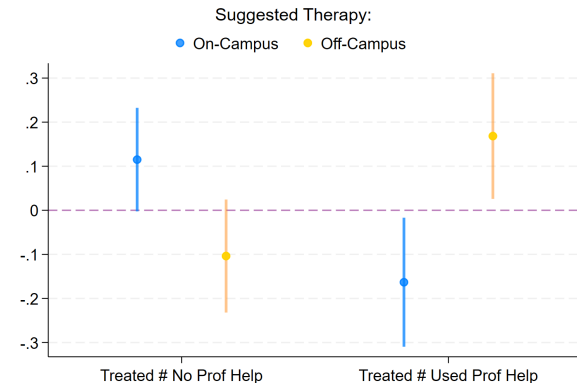
(a) WTP Self (pp)



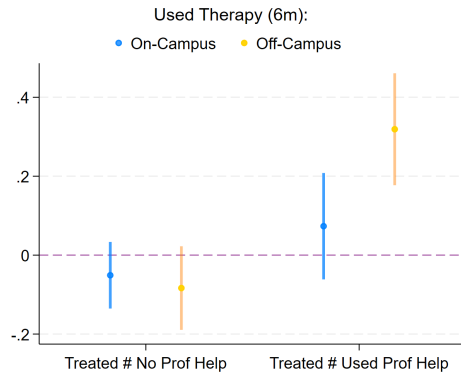
(b) WTP Friend (pp)



Result #3. Heterogeneity by Prior Therapy Use



90% CI. Followup survey outcome: suggested on/off-campus therapy in the last 6 months.



90% CI. Outcome from the followup survey: using on/off-campus therapy in the last 6 months.

Key Takeaways

- ▶ Nearly 50% of students in distress do not receive professional support despite high awareness and perceived effectiveness
- ▶ Two- to three-quarters of students hold incorrect beliefs about academic performance and peers' severity in therapy
- ▶ Information intervention increases sharing and recommending of on-campus mental health resources to peers
- ▶ Negative effect on short-run WTP for private therapy, with potential backlash on stigma-related beliefs

- ▶ An experiment with peer-group discussions about mental health treatments
- ▶ Promoting therapy use in a close circle may lead to more effective belief updating

Appendix

Table: Student Characteristics (N=680)

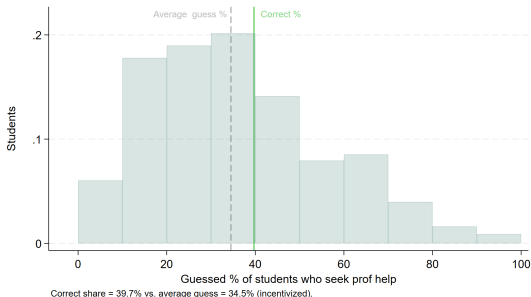
	Mean	SD		
Female (%)	51	50	Fields of Study	Sample University
Age (Years)	20.2	1.9	STEM (%)	46 42
Heterosexual (%)	74.9	43.4	Business (%)	18 25
Pursuing Bachelor's (%)	91.2	28.4	Medicine & Health (%)	20 10
Full scholarship (%)	7.9	27.1	Law, Econ, Government (%)	11 8
Partial scholarship (%)	69.1	46.2	Creative Studies (%)	3 8
Both parents w/ college degree (%)	71.3	45.3	Architecture & Environment (%)	2 7

Left: sample means and standard deviations of student participants' characteristics.

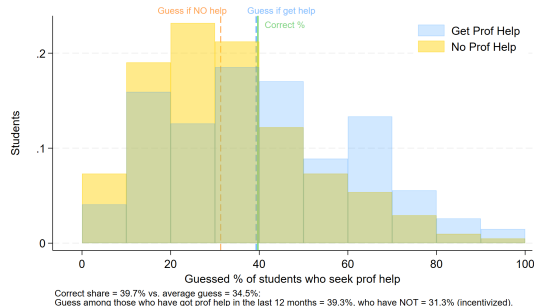
Right: the distribution of the survey sample and the university population across fields of study.

Appendix: Student Guesses of the Prevalence of Professional Help-Seeking

(a) All Students

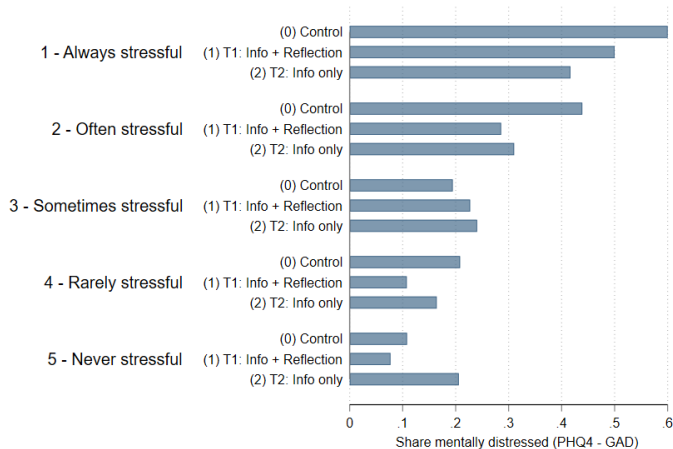


(b) By prior therapy use

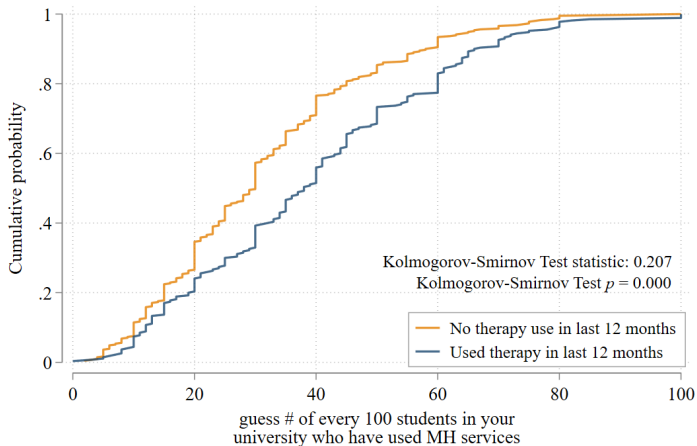


Notes: This figure shows the distribution of guesses of the percentage of students who seek professional help among University students. In Panel (a) we show all respondents while on Panel (b) we split the sample by an indicator of whether the respondent got professional help in the last 12 months (self-reported).

Appendix: Mental Distress by Financial Stress



Appendix: Cumulative Density of Guesses about Therapy Use



Appendix: Prior Belief 3 Instructions

Guess #3

This question asks you to provide your best guess about the relationship between average grades (GPA) and mental health state across students.

Fill in the blank with your best guess:

"A student with mental health issues (e.g. depression or anxiety) performs _____ in classes compared to a student without mental health issues"

If your guess is correct, you might earn a bonus of 50 MXN.

(We will calculate this relationship with a rating from -1 to 1 called "correlation," using the GPA and a measure of mental health reported by the participants in this survey. One of the bonus questions will be randomly chosen for payment.)

Appendix: WTP Self – Instructions

BetterHelp

- BetterHelp is an **online therapy service** that connects users with licensed therapists.
- Users can message their therapist **anytime with text or audio messages**
- Users can also schedule **weekly live video sessions up to 45 minutes**
- With over 25,000 therapists available, BetterHelp offers **flexibility in finding the right therapist**, making it easier to access support that fits your needs and schedule.

In this question, we will ask you about the maximum amount you are willing to spend on 4 weeks of therapy with BetterHelp (1 session per week, 4 sessions total). Note that this service is usually priced at around 6,500 MXN for 4 weeks.

We will select a few participants randomly and implement their choices - it could be you!

What is your valuation, i.e. the maximum amount of money you would pay for 4 weeks of therapy from BetterHelp (1 session per week, 4 sessions total)?

A computer will bid against you. The computer's bid will be a random number between 0 MXN and 7000 MXN independent of your answer.

- If your valuation is higher than the computer's bid, you will receive four weeks of therapy from BetterHelp for free
- If your valuation is lower than the computer's bid, you will receive an amount worth the computer's bid that will be added to your Amazon gift card balance

Regardless of the computer's bid, it is always in your best interest to report your true personal valuation!

0 700 1400 2100 2800 3500 4200 4900 5600 6300 7000

Your valuation (in MXN):

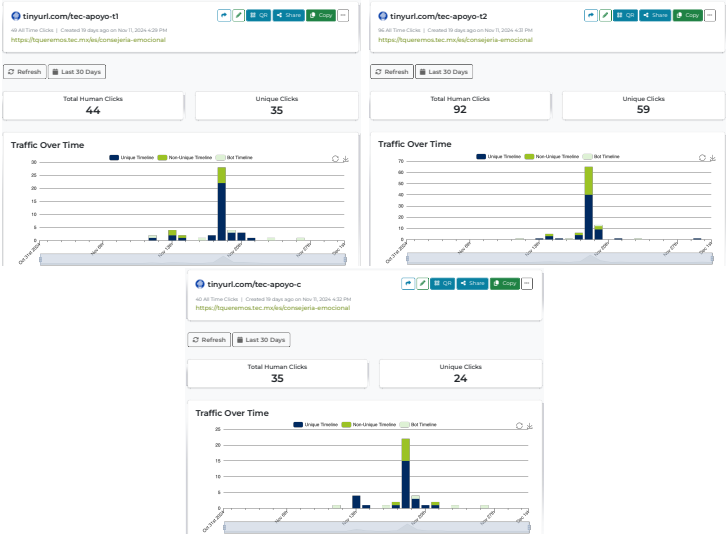


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Appendix: Balance - Combined Treatment

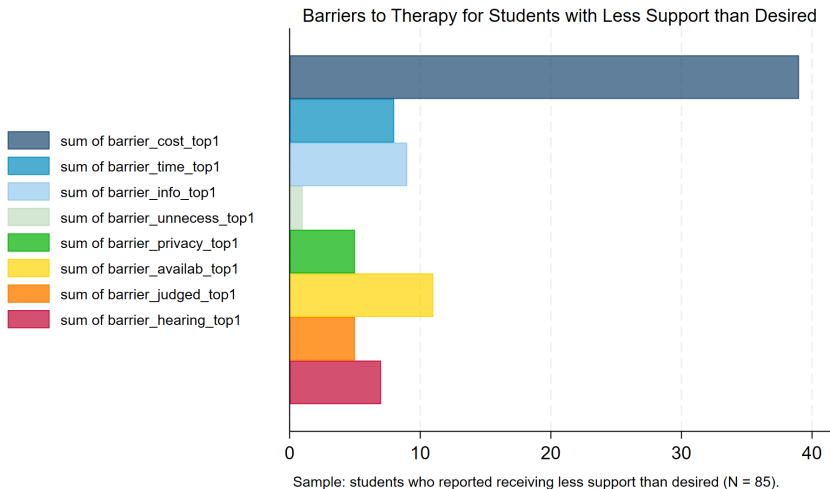
Variable	(1) Control		(2) Treated		(1)-(2) Pairwise t-test	
	N	Mean/(SD)	N	Mean/(SD)	N	Mean difference
Age	232	20.159 (1.848)	448	20.145 (2.031)	680	0.014
Female	232	0.461 (0.500)	448	0.536 (0.499)	680	-0.075*
Financially Stressed	232	0.530 (0.500)	448	0.571 (0.495)	680	-0.041
Has Scholarship	232	0.651 (0.478)	448	0.712 (0.453)	680	-0.061
Receives a full scholarship	232	0.082 (0.275)	448	0.078 (0.269)	680	0.004
Moved Residence	232	0.591 (0.493)	448	0.621 (0.486)	680	-0.030
GPA	232	90.897 (4.659)	448	91.007 (4.727)	680	-0.110
MH Score	232	8.569 (5.132)	448	8.237 (5.054)	680	0.332
Used Therapy L12 Months	232	0.431 (0.496)	448	0.379 (0.486)	680	0.052
Open to Share MH Challenges	232	0.392 (0.489)	448	0.355 (0.479)	680	0.037
Self-stigmatize	232	0.323 (0.469)	448	0.286 (0.452)	680	0.038

Appendix: Share Link with Friends about Campus Resources

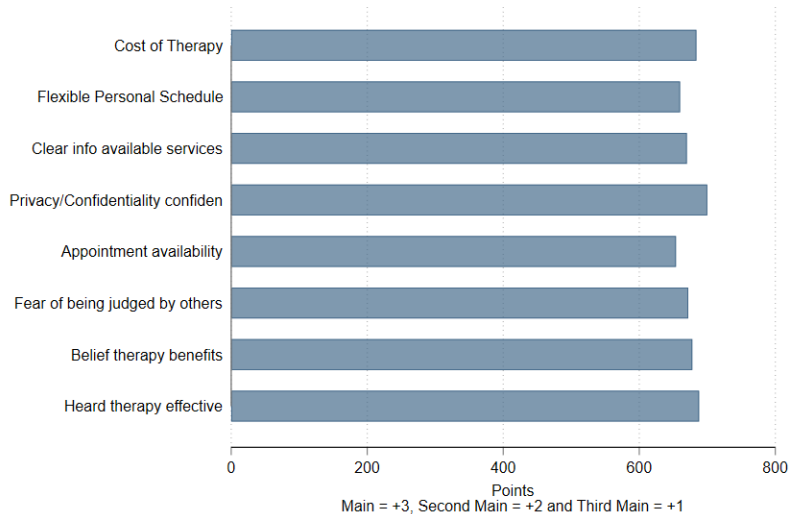


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Appendix: Barriers to Therapy for Students with Less Support Than Desired



Appendix: Factors Pro Therapy (therapy users)



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