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IZA DP No. 17637

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ABSTRACT

Using Engaging Activities to Enhance Student Mental Wellness in Introductory Economics Classes

Many college students experience symptoms of mental health challenges, with depression and anxiety being among the most common. These problems negatively affect academic performance (Brännlund et al. 2017) and overall health (Yang et al. 2024). In the 2021 Healthy Minds Study, 41% of the participating students tested positive for depression, 34% suffered from anxiety, 12% had an eating disorder, 40% were diagnosed with a lifetime mental disorder, and 13% reported suicidal thoughts in the previous year (Eisenberg et al. 2021). These statistics are both concerning and unfortunate given that there are easy ways to maintain good mental health. In this paper, we propose engaging activities that can be implemented in introductory economics classes to illustrate economic concepts while promoting wellness. Learning activities that promote wellness in economics serve a twofold purpose: knowledge acquisition and better mental health outcomes for students, both of which are public goods.

JEL Classification:	A20, A21
Keywords:	activities, engagement, engaging activities, foundation economics, games, mental health, music, teaching economics, wellness

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1 Introduction

Mental health includes emotional, social and psychological well-being. Poor mental health has a negative effect on thinking, emotions and behavior and is negatively associated with well-being, relationships, an individual's ability to work, concentration, energy levels and self-esteem (Saloni et al. 2023; World Health Organization 2023¹). It also increases the risk of physical health conditions such as heart disease, diabetes and stroke², and suicidal thoughts³. It has implications for overall physical health (Yang et al. 2024), education (Brännlund et al. 2017), and work (Frijters et al. 2014; Bubonya et al. 2017; Cornaglia et al. 2015). Furthermore, the effects of mental health challenges go beyond the individuals who experience them. In the language of economics, mental health challenges create negative externalities that extend beyond the classroom. The consequences spread among families, communities and the world, increasing the importance of prevention and timely treatment. Rather than accept this reality, we believe that we can create a positive classroom experience which reduces mental health issues.

Although the importance is well-known, there is significant need to address treatment and prevention as mental disorders are currently among the most common health conditions around the globe. According to the World Health Organization, one in eight people live with mental disorders⁴. In 2021, 22.8% of American adults experienced a mental illness, one in six U.S. adolescents aged between 12 and 17 had experienced a major depressive episode, and one in three U.S. young adults aged 18-25 had experienced a mental illness⁵. A large-scale study using data from 29 countries conducted by the Harvard Medical School and the University of Queensland found that approximately 50% of the world population develops a mental disorder during their lifetime (by age 75) (McGrath et al. 2023). This study showed that the likelihood of a mental health incidence is the highest around age 15, and the median age of an onset of a mental disorder is 19 for males and 20 for females (McGrath et al. 2023).

This age coincides with the age of the majority of Gen Z college students whose mental health concerns have been confirmed by other data. The American Psychological Association has reported that Gen Z are more likely to report poor mental health than any previous generation (American Psychological Association 2018). A large study of college students in the U.S. conducted by Duffy et al. (2019) evidences an increase in the rate of major mental health problems among college students (Duffy et al. 2019) with anxiety and depression being the most prevalent (Tan et al. 2023). Unfortunately, although there is treatment for mental disorders, many conditions remain untreated because of low investment in mental health care or concomitant social stigma (Evans-Lacko et al. 2018). Fortunately, there are relatively easy strategies to maintain good mental health and to alleviate initial symptoms of mental disorders.

¹ https://www.who.int/news-room/fact-sheets/detail/depression

² https://www.cdc.gov/mentalhealth/learn/index.htm

³ https://www.who.int/news-room/fact-sheets/detail/depression

⁴ https://www.who.int/news-room/fact-sheets/detail/mental-disorders

⁵ https://www.nami.org/about-mental-illness/mental-health-by-the-numbers/

Many of these strategies are already used in college classrooms. Specifically, we summarize activities that could be implemented easily in introductory economics classes to illustrate economics concepts while simultaneously promoting wellness. Being intentional about mental health and wellness has several advantages:

- Helps students learn in an engaging way.
- Creates habits that could beneficially affect students' life-long well-being.
- Helps students maintain strong mental health or potentially improve their wellness, which could positively affect students' concentration and performance.
- Creates a supportive and pleasant classroom environment by reducing student stress and anxiety levels.
- Fosters a sense of belonging by encouraging students to engage in activities that build experiences with peers.
- When wellness activities are thoughtfully built into the course design, this creates positive externalities for all students.

The following section summarizes the relevant literature on mental health and wellness, and provides suggestions on how to improve or maintain good mental health. In Section 3, we offer activities that economics educators can use in their classes to accomplish the above-mentioned goals and identify the positive effect each activity could have on students' wellness. Section 4 concludes.

2 Literature review

Research that explores the effects of mental health on productivity, education and physical health provides evidence of the importance of wellness. The literature suggests that better mental health has a positive effect on physical activity which improves physical health (Yang et al. 2024); while poor mental health positively impacts obesity, even after accounting for the endogeneity of mental health (Kesavayuth et al. 2024). There is also a positive association between mental health and educational success (Brännlund et al. 2017), completing an educational degree (Cornaglia et al. 2015), employment (Frijters et al. 2014) and performance at work (Bubonya et al. 2017). Frijters et al. (2014) show that a one standard deviation decline in mental health decreases employment by 30 percentage points. Workers with poor mental health are 5% more likely to be absent from work than employees without mental disorders (Bubonya et al. 2017) and are more likely to drop out of the labor force early (Cornaglia et al. 2015).

Given the detrimental effect of poor mental health, there is extensive medical and psychology literature that offers recommendations on how to avoid and reverse mental issues. The following are some of the most common practices to boost mental health and scientific evidence in support of their efficacy:

• Socialize with others, e.g., family or friends.

- According to the Mayo Clinic, being socially connected has a positive effect on the mind and the body. It reduces the feeling of loneliness, improves memory and cognitive skills, and increases happiness and overall well-being⁶. Social connectedness is associated with the release of oxytocin, a hormone that promotes feelings of bonding and trust, providing emotional support and improving mental health (Berkman et al. 1979). The quality and the quantity of social relationships affects both mental and physical health (Umberson et al. 2010).
- Get active (e.g., dance, do pushups). Get outside.
 - Mahindru et al. (2023) have shown a positive effect of physical activity on mental health. Exercise is associated with improved sleep quality, mood and quality of life (Mahindru et al. 2023). A study by Erickson et al. (2011) shows that physical activity improves memory and cognitive function. Furthermore, Liao (2024) finds evidence that dancing has a positive effect on the mental health of college students, which is connected to less psychological stress and better emotional regulation.
- Relax (e.g., take deep breaths, do yoga, meditate, enjoy a cup of tea, read a book or listen to music).
 - Relaxation such as yoga, music intervention and muscle relaxation has been shown to alleviate symptoms of anxiety and depression in adults. The effect could last between 14 and 24 weeks after the intervention (Klainin-Yobas et al. 2015).
- Practice gratitude (e.g., send a Thank You note or write down things you are grateful for).
 - Gratitude is something we should strive to include in our day-to-day lives year-round whether that be in our friendships, our relationships, our physical activities or even during the quiet moments we have time to ourselves. Research suggests that one of the most effective positive psychology interventions requires that participants practice gratitude. Gratitude activates areas of the brain associated with the production of dopamine, enhancing the feeling of happiness (Fox et al. 2015). Gratitude activities are also associated with lower levels of stress and depression, and improved well-being (Komase et al. 2021). Watkins et al. (2014) used a randomized controlled experiment to show that a gratitude 3-blessings treatment (i.e., stating three things one is grateful for) improves participants' well-being and one's ability to recall positive memories. Hartanto et al. (2022) found that individuals who were told to practice gratitude contemplation experienced fewer daily negative effects such as anxiety, perceived stress, and symptoms of depression compared to participants who had to only describe their daily events.
- Keep a journal.
 - Keeping a record of personal thoughts, feelings and insights increases awareness, allows for reflection, regulates emotions and reduces anxiety⁷.

⁶ Mayo Clinic Minute: The benefits of being socially connected - Mayo Clinic News Network

⁷ How Journaling Can Help Ease Anxiety and Encourage Healing (webmd.com)

- In fact, Brewer et al. (2006) proposed two writing assignments: writing a reflection paper and writing short journal entries in introductory economics classes to show the numerous applications of economics in daily life. The journal entries suggested by Brewer et al. (2006) could potentially promote wellness.
- Laugh, watch or listen to something fun.
 - Humor skills promote positive thinking, self-efficacy and optimism. They are associated with lower stress levels, anxiety and depression (Crawford et al. 2011).
- Try new hobbies or activities you enjoy (e.g., cooking, solving puzzles, doing jigsaw puzzles, knitting, photography, dancing, gardening, etc.).
 - Hobbies and fun activities make people feel happier and more relaxed. Enjoyable activities are associated with lower blood pressure, better physical function and improved well-being (Pressman et al. 2009). Engaging in such positive activities helps people view life events more positively (Lyubomirsky et al. 2013).
- Practice mindfulness, i.e., paying attention to the present and engaging with the world around us.
 - Research shows that mindfulness improves memory and learning and lowers stress and anxiety (Hölzel et al. 2011).
- Be affectionate and show appreciation.
 - Jakubiak et al. (2016) provide evidence that affection improves relational, psychological and physical well-being in infancy and adulthood.

Before moving on, it is worth noting that after an extensive search, we are unaware of any previous articles in economic education that offer specific activities with the goal of promoting mental wellness. The closest research we can find are two articles (Kader, 2016; and Cannonier and Burke, 2023) that address test anxiety. Cannonier and Burke (2023) recommend the use of test aids to reduce test anxiety. That approach is in the spirit of what we recommend here but it does not provide any instructional solutions that would mitigate anxiety or create better mental health outcomes.

The broader academic literature acknowledges the importance of proactively creating a learning environment that promotes students' mental health and reduces stress and anxiety in the classroom. For example, Eblen-Zayas et al. (2022) suggest the following small course modifications to support students' mental health: small group active learning activities to reduce anxiety through social connectedness, mastery-oriented feedback, and provision of multiple assignments students can choose from. Hsu et al. (2021) elaborate on practices that instructors could employ to lower stress for college STEM students. Connecting with students (e.g., remembering their names, using humor to create positive classroom atmosphere), creating an empowering classroom environment (e.g., deliberately forming teams of students, promoting inclusive and equitable classroom), reducing test anxiety (e.g., giving low-stakes tests, incorporating alternative means of assessment), and promoting a growth mindset could alleviate stress and anxiety (Hsu et al. 2021). In these studies, the authors propose ways to make changes in the course design.

Another string of the literature suggests the provision of mindfulness training in a separate course or outside the classroom (e.g., Galante et al. 2018). However, given the large amount of content already included in most courses, incorporating experiential learning activities that teach students wellness strategies into the curriculum could be challenging, especially in non-health disciplines in which mental health is not covered (Reis et al. 2023). This is unfortunate because research has shown that experiential learning opportunities that embed mental health literacy content in non-health disciplines improve student confidence in engaging in conversations about health and wellbeing with peers, which benefits the learners (Reis et al. 2023).

Our article and this prior literature have the same goal: to promote students' mental well-being. However, to the best of our knowledge, our study is the first to offer specific activities designed particularly for an introductory economics classroom. The proposed activities also have pedagogical purposes, so they do not disrupt learning while promoting healthy habits and skills that improve well-being.

3 Activities in an Economics classroom that promote wellness

Table 1 matches wellness tips with activities that could be used to implement these tips while teaching introductory economics. The suggested activities are not meant to be graded. When an activity engages students, they are (surprisingly) willing to participate; and they enjoy it more without having concerns about their grades. In fact, Dickie (2006) has found evidence that grades may offset the benefit of conducting experiments.

Each activity and how it can be implemented in class is described in more detail immediately after Table 1. This is not meant to be an exhaustive list, but inspiration to consider how you might transform your existing classroom materials with wellness in mind.⁸ The activities proposed below are most relevant to introductory economics classes. However, the approach undertaken here is also applicable in advanced courses.

Wellness tips	Activities in an economics classroom	
Relax	Music	
Be mindful	Music	
Get active	Demonstrating the PPF and comparative	
	advantage; the market game.	
Practice gratitude	The invisible hand	
Be affectionate	The disconnect between GDP and happiness	
Socialize	Economic selfies	

⁸ Some of the best places to find teaching methods that promote wellness (beyond those mentioned here) are Starting Point (https://serc.carleton.edu/econ/index.html) and The Economics Instructor's Toolbox (https://www.theecontoolbox.com/).

Try new hobbies or fun activities	Economic selfies; economic modeling; using Sudoku to teach cost
Laugh	An unemployment demonstration

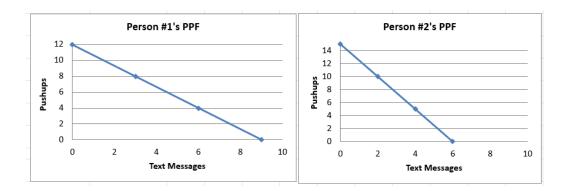
Source: authors

- (1) Music. Research has shown that listening to music can reduce anxiety, blood pressure, and pain as well as improve sleep quality, mood, mental alertness, and memory. Music 4 Econ⁹ (Geerling et al. 2024) and Econ Gone Country¹⁰ (Melichar 2024) are two sites with songs related to economics. These songs can be searched by subject matter. Being intentional about the use of music is a great way to make any economics course more welcoming while simultaneously teaching economic concepts (e.g., Tinari et al. 2000; Lawson et al. 2008). We encourage you to find music from these resources and begin playing these songs before class and/or during in-class collaborative learning exercises. Because you could play music before class begins or while students work on other activities, the opportunity cost of incorporating music is very low. In fact, playing music does not require sacrificing any material or practice. You will quickly find that students welcome the change in the classroom vibe when you use music.
 - Economic concepts: Any concept, depending on the selected song. Music 4 Econ and Econ Gone Country provide songs appropriate for Microeconomics, Macroeconomics, Economics Foundations, Labor/Trade and Personal Finance. Music 4 Econ also has articles that connect music with specific courses¹¹.
 - Estimated time: No class time. You can play music before class or while working on in-class exercises.
 - Materials needed: Ability to play music in class.
- (2) **Demonstrating the PPF and Comparative Advantage.** This activity was developed by James Tierney and Michael Enz and first presented at the Conference on Teaching in Research Economic Education in 2013. Two volunteers are selected to do as many pushups and text messages as they can in four separate 30 second trials. Student helpers keep track of how many pushups and texts are completed and the instructor records the data into a spreadsheet. A sample table is provided in Appendix 1. Once all the data are collected, the PPFs of each volunteer are shown side-by-side. This leads to a conversation about absolute and comparative advantage that is memorable and at the same time helps students make the leap from looking at data in a table to visualizing the same data in a graph. Collecting real-time data from class volunteers dramatically increases engagement. The wellness literature has shown that exercise boosts the brain and mental health.

⁹ https://music4econ.com/

¹⁰ http://www.econgonecountry.com/

¹¹ For example, Vidal et al. (2025) relate country music to economic history.



- Economic concepts: PPF, comparative advantage, absolute advantage.
- Estimated time: Depending on the length of the discussion, this activity could take between 9 and 12 minutes – 2 minutes doing pushups and texting (four 30-second trials), 3 minutes collecting data and creating the graphs, and between 4 and 7 minutes of conversations.
- Materials needed: Ability to collect the data and to show on the board (Excel software and a projector); student phones.
- (3) The Market Game. This is a fun way, in small and large classes, to help students understand market forces. Each student is a buyer and a seller in a market simulation. The simulation provides students with endowments of six different animals. The task is to trade your animals to secure six new animals you seek in the market. This means that the students are both buyers and sellers in a complex market with limited information about the relative scarcity of each animal. To succeed, students must canvass the classroom to find other students to barter with. Initially, students sit in their seats and trade with those around them but once the opportunities are exhausted students stand up and start moving around the room. In large classes it is quite a sight when 500+ students are involved the room looks like a giant trading pit. Once trading ends, follow up with a Kahoot! debrief¹² that shares which assets in the game were in short supply, equilibrium, and oversupplied. We then ask a series of questions to help students understand the role of information in markets and how shortages and surpluses are resolved. The simulation builds the intuition that students need to understand the formal analysis of supply and demand. Students love talking to each other and trying to find ways to strike a deal.
 - Economic concepts: supply and demand, market equilibrium, shortage, surplus.
 - Estimated time: about 15 minutes for the actual activity plus a 5-minute debrief.
 - Materials needed: Sufficient classroom space for students to be able to move around.

¹² https://create.kahoot.it/details/2f0a850d-b891-49d4-9c6b-dd751e1fdb29



- (4) The Invisible Hand. Don't talk about the invisible hand; show students the 2:44-minute video in which writer AJ Jacobs explores what happens once you decide to thank everyone responsible for your morning coffee¹³. In attempting to do so, he realizes that it is impossible to thank everyone involved. However, the point he is trying to make, that there are millions of people involved in making our everyday lives better, is quite powerful. That's Adam Smith's invisible hand at work behind the scenes. Second, you can ask your class where their t-shirt or sweater came from. Have students assist one another to find out what country is listed on the tag. Students should write the country on the board (in small classes) or enter their result electronically in large or online classes. Typically, most t-shirt labels are from SE Asia. This provides a chance to discuss all the stages of production in making t-shirts. As the discussion progresses, it becomes clear that many countries help bring the t-shirt to market. This activity is based on a book by Pietra Rivoli¹⁴.
 - Economic concepts: Invisible hand, production.
 - Estimated time: Between 4 and 10 minutes, depending on the length of the discussion you would like to lead after the video.
 - Materials needed: Ability to show a video.

¹³ https://criticalcommons.org/view?m=AbSLb2xSP

¹⁴ https://www.amazon.com/Travels-T-Shirt-Global-Economy-Economist/dp/0471648493



- (5) The Disconnect between GDP and Happiness. Diane Coyle demonstrated this idea very powerfully using money and a hug. In the first 1:53 minutes of a video¹⁵, Coyle was trying to get across an important point, that GDP and happiness are correlated but that does not mean that GDP is the best measure when it comes to human happiness. You can replicate the demonstration yourself by inviting two students to join you in front of your class. Have your volunteers randomly select an envelope. One envelope has \$10, the other has a hug. Before opening their respective envelopes ask each student to rate their happiness that day on a scale of 0-10. After each student opens their envelope and receives the money or a hug from you, ask them to re-rate their happiness. Be sure to give a full hug and say something caring to each recipient. The student who receives the hug has a bigger boost in happiness than the student who receives the \$10. Affection has been shown to benefit our mental and physical health.
 - Economic concepts: GDP.
 - Estimated time: 4-5 minutes.
 - Materials needed: Ability to show a video (if you choose to show the suggested clip), Two envelopes one with \$10 inside and the other with a note that says 'hug', markers and a board to write on.

¹⁵ https://www.youtube.com/watch?v=6YzEKG-nvgE



- (6) **Economic Selfies.** Ask your students to visit a place on campus or in the surrounding community and take a selfie¹⁶ (Al-Bahrani et al. 2016) with or about something related to economics. To increase the overall wellness generated, have students take their selfies in groups.¹⁷ The selfies should then be shared in class. Discovering something new and sharing what you learned increases wellness and makes the subject matter more visceral.
 - Economic concepts: can be any concept covered in introductory economics courses.
 - Estimated time: as little as 1 minute per shared photo of class time, because students take the selfies outside the classroom, you could devote an entire class where students share their selfies and how they relate to economics. If you are not able to allocate such time, students could share their pictures and discuss outside of class, for example, on a discussion board incorporated in their learning management system.
 - o Materials needed: Ability to show selfies in class (a computer and a projector).

16

https://www.sciencedirect.com/science/article/abs/pii/S1477388015302413#:~:text=We%20have%20evolved%20t he%20concept%20of%20a%20%E2%80%98selfie%E2%80%99,ways%20that%20relate%20to%2C%20or%20demons trate%2C%20economic%20concepts.

¹⁷ https://www.verywellmind.com/teamwork-makes-the-dream-work-the-importance-of-working-together-7111709



- (7) Economic Modeling. This activity is just 'plane' fun. Ask your students to make the best paper airplane they can in two minutes. While they are making the airplanes, play "Airplanes" by B.o.B.¹⁸ (see the earlier discussion on music). Now divide the class into three groups (left, right, and center). Ask the students on the left to throw their planes at a bullseye you draw at the front of the room. Pick up the winning plane and note that a true scientific test would require thousands of trials, but that the winner is a solid design. Then, have the middle group hold up their planes but this time they must add some drag to the left wing before that group tries to hit the target. Discuss how the small change in design affects the flight. This is the way economists invoke *ceteris paribus*, or changing one thing at a time, when determining causality. Finally, have the group on the right add drag to the left wing, tear out a chunk of the fuselage, and point the front of their plane down. The right group now tries to hit the target (without much luck) because there are three design flaws, which makes it difficult to pinpoint causality. This activity illustrates how to test models and the role that endogenous and exogenous factors play in how well a model performs. Read more about the entire activity in Geerling et al. (2019)¹⁹. It might sound too good to be true, but simply engaging in creative behaviors improves brain function, mental health, and physical health.
 - Economic concepts: Ceteris paribus assumption, economic model.

¹⁸ https://www.youtube.com/watch?v=kn6-c223DUU

¹⁹ https://research.monash.edu/en/publications/the-view-from-30000-feet-using-paper-airplanes-to-understand-econ

- Estimated time: 2-3 minutes to build the airplanes, 3 additional minutes for each group to fly their planes, and time to debrief. Approximately 10 minutes.
- Materials needed: Paper to make planes.



(8) Using Sudoku to Teach Cost. This activity²⁰ (Acchiardo et al. 2022) transforms the calculation of a cost table into a game of Sudoku. Students work in groups to solve a cost table that is incomplete. The solution, like a Sudoku puzzle, requires backward induction and helps build the intuition for how total, average, and marginal cost are connected. Research has shown that engaging in Sudoku puzzles can have numerous positive effects on mental health. Solving puzzles can be a form of meditation, allowing individuals to focus their attention on a specific task and reduce feelings of anxiety or stress.

Q	FC	VC	тс	AFC	AVC	ATC	MC
1			520				
2				60			200
3					240		
4						230	
5		850					
6							110
7			1380				

- Economic concepts: costs, fixed cost (FC), variable cost (VC), total cost (TC), average FC (AFC), average VC (AVC), average TC (ATC), marginal cost (MC).
- Estimated time: 4-6 minutes per sudoku, plus time to debrief. Overall, somewhere between 10-20 minutes depending on the number of questions.
- Materials needed: Printed copies of the table that students need to complete; ability to show the table on the board (computer and projector) or markers and a whiteboard if the table will be completed on the board.

²⁰ http://beijournal.com/images/V14_N2_build_3_2-8-23.pdf (see page 141)

- (9) An Unemployment Demonstration²¹. Here, the student volunteers are the unemployed. As the number of volunteers changes, the unemployment rate is recalculated based on whether the volunteer gets rehired or leaves the labor force. This is a great demonstration that leaves a lasting impression on the class. The volunteers must also make a swimming motion (to try to stay afloat while looking for work). Often the swimming motions are hilarious. Beyond being fun or because it's fun silliness has lots of health benefits. In the short-term, the laughter evoked by being silly or watching the silliness of others reduces tension. Laughter releases endorphins in the brain that relieve stress and can help reduce pain and increase our sense of well-being.
 - Economic concepts: Unemployment rate.
 - Estimated time: 4-6 minutes.
 - Materials needed: A whiteboard and markers or a computer and a projector to show the unemployment rate at different points in time.



The examples provided here are a small sample from hundreds of ideas found throughout the economic education literature that could be used to promote wellness. To be clear, economic education remains our top priority, but that does not mean that we should teach with only that goal in mind. Happier and healthier students have more time to focus on the materials we teach. Let's create a learning experience that creates better life outcomes for our students. The costs here are non-trivial, since it takes classroom time to implement. However, the costs are more than offset by the benefits we see directly in our students' attendance, engagement, and performance. There are also indirect benefits to society that we often do not get to see. When a student leaves a classroom inspired and refreshed, this makes the rest of their day better.

4 Conclusions

Good mental health could improve students' physical health, behavior, engagement, motivation, and educational success. It contributes to a positive classroom culture and supportive connections with peers and teachers. Unfortunately, students' mental health has been worsening

²¹ Check out the following video by Wayne Geerling: https://www.youtube.com/watch?v=JEVhKnOUiVc.

in recent years. In the 2020-2021 academic year, more than 60% of college students experienced the symptoms of at least one mental health problem²². This has increased the need to embrace a culture of wellbeing on our campuses and help students learn proper techniques to maintain good mental health. In this paper, we accept this challenge and describe activities that could be used in introductory economics classes to promote wellness. It is our hope that this article will spur other economic educators to consider the potential for positive mental health externalities in their course design.

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²² Student mental health is in crisis. Campuses are rethinking their approach (apa.org)

Person #1					
	Pushups	Texts			
0:30 / 0:00					
0:20 / 0:10					
0:10 / 0:20					
0:00 / 0:30					
	Person	#2			
	Pushups	Texts			
0:30 / 0:00					
0:20 / 0:10					
0:10 / 0:20					
0:00 / 0:30					

Appendix 1: Table for collecting data for the PPF and comparative advantage demonstration

Source: authors

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