



# Pace University: Society of Fellows



**41st Annual Meeting  
March 26th, 2022  
New York City**



Photo credit: Adam Mansur

















Sustainable Development Goals  
Increasing Global Water Security  
Developing Countries and the  
Goals

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want to make  
movies out of  
blood, sperm  
and tears,"  
(Love)

## Visual Pleasure

"Woman's desire is  
subjected to her image  
as bearer of the  
bleeding wound, she  
can exist only in relation  
to castration and  
transcend it,"  
(1960)

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eting

14

10 p.m.

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## STUDENT COMMONS

DNA Barcoding of Shark Species from NYC  
Trishita DeyBarkar, Shayan Sanial and Dr. Zeynep  
Pace University, Department of Biology, One Pace

### Introduction

Over 500 species of sharks inhabit the ocean, each filling its own ecological niche, such as top predator or scavenger, and all working together to maintain a healthy and diverse ecosystem. Due to overfishing via directed and bycatch fishing methods, their threats like habitat loss and climate change, there has been a 70% decline of sharks since 1970 (Shiffman and 2021, 2022). In many fish markets in New York City, sharks are sold but due to incomplete catch data, it is difficult to say if these sharks are prohibited at the state and federal levels. To monitor species caught changes seasonally, we collected samples from multiple fish markets in NYC over the years 2021-2022. After collecting the samples, we performed gel electrophoresis to amplify the mitochondrial cytochrome b (cytb) gene that is used for taxonomic identification. We used PCR amplifiers for Sanger sequencing and used BLAST and MEGA databases to identify the most likely species. Out of the 100 samples collected, a common species identified was Dusky smoothhound (*Mustelus canis*), although we also found a prohibited species, the Sandbar shark (*Carcharias plumbeus*). By cataloging the species of sharks being sold, we can increase the understanding of whether sharks are being threatened by illegal and unregulated fishing, and influence policy to protect endangered sharks from extinction.

### Methods

#### Sample collection:

Shark meat has been collected from Queens (Flushing and Jamaica) and Chinatown since June 2021. Small amount of meat stored in 70% ethanol, while the rest of sample is frozen.

#### RNA extraction:

RNA is extracted from small portion of muscle using Qiagen RNeasy Blood and Tissue kit protocols.

Reverse chain reaction is performed for DNA extracts using different sets of universal shark primers.

Species	Forward primer
Dusky	5'-TTC-3'
Hammerhead	5'-TTC-3'
Spiny	5'-TTC-3'
Hammerhead	5'-TTC-3'
Spiny	5'-TTC-3'
Hammerhead	5'-TTC-3'
Spiny	5'-TTC-3'
Hammerhead	5'-TTC-3'
Spiny	5'-TTC-3'
Hammerhead	5'-TTC-3'
Spiny	5'-TTC-3'

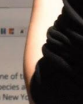
### Gel electrophoresis

PCR samples are run on an agarose gel to make sure the right set of primers have replicated the gene of interest.



### DNA Sequencing

PCR samples are sent to a commercial sequencing service. Forward and reverse sequences are aligned. The final sequence is compared to GenBank.



Species	Species name	Common name
Dusky	Dusky smoothhound	Dusky smoothhound
Sandbar	Sandbar	Sandbar
Dusky	Dusky smoothhound	Dusky smoothhound
Dusky	Dusky smoothhound	Dusky smoothhound
Rhizoprionodon	Atlantic Sharpnose	Atlantic Sharpnose
Mustelus	Dusky smoothhound	Dusky smoothhound

### Discussion

Sharks have low fecundity, complicating their population recovery. In 2010 alone, 100 million sharks were killed in 2010 alone. This is mainly due to the demand for shark fins. Significant numbers of sharks are overfished and international policies have been implemented to protect shark populations. These bans include fin bans (Shiffman and 2021, 2022). One of these regulations is compliance with the fin bans and international policies are not as effective. One of the endangered species (Dulvy, 2008). The New York State Department of Environmental Conservation (DEC) is a need for stricter and more consistent policies. The techniques used in this study to identify species and could be used to assess fisheries and include that the decline in shark populations is linked with broad ecological changes and with broad ecological changes and with broad ecological changes.

Shiffman, Eric Cortes, Andrei Cortes, The Global Status of the Fisheries of the World (2008), Fisheries 18 (1): 439-42.

New York State Department of Environmental Conservation, [www.dec.ny.gov/](https://www.dec.ny.gov/)

Shiffman, Eric Cortes, Andrei Cortes, The Global Status of the Fisheries of the World (2008), Fisheries 18 (1): 439-42.

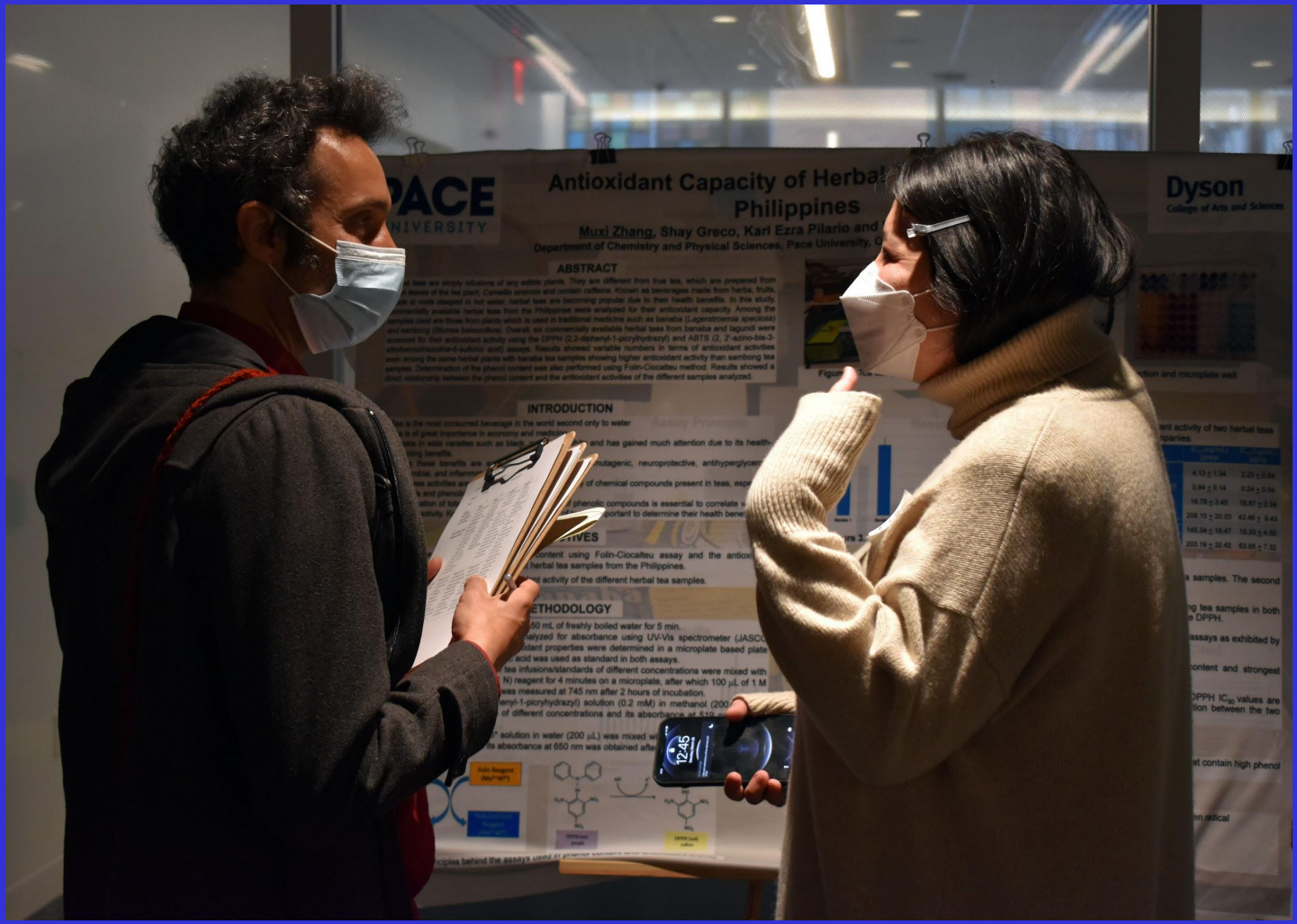
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# Antioxidant Capacity of Herbal Philippines

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Dyson  
College of Arts and Sciences

## ABSTRACT

Herbal teas are simply infusions of any edible plants. They are different from true tea, which are prepared from the leaves of the tea plant, *Camellia sinensis* and consist caffeine. Known as beverages made from herbs, fruits, or a mix of some brewed in hot water, herbal teas are becoming popular due to their health benefits. In this study, we commercially available herbal teas from the Philippines were analyzed for their antioxidant capacity. Among the samples used are those from plants which is used in traditional medicine such as banana (*Lagerströmia speciosa*) and warming (*Platanus lanceolata*). Overall, all commercially available herbal teas from banana and lagundi were assessed for their antioxidant activity using the DPPH (2,2-diphenyl-1-picrylhydrazyl) and ABTS (2,2'-azino-bis(3-ethylbenzothiazole-6-sulfonic acid)) assays. Results showed variable numbers in terms of antioxidant activities were among the same herbal plants with banana tea samples showing higher antioxidant activity than sambong tea samples. Determination of the phenol content was also performed using Folin-Ciocalteu method. Results showed a direct relationship between the phenol content and the antioxidant activities of the different samples analyzed.

## INTRODUCTION

Tea is the most consumed beverage in the world second only to water. It is of great importance in economy and medicine. Tea has gained much attention due to its health benefits. Herbal teas are becoming popular due to their health benefits. They are different from true tea, which are prepared from the leaves of the tea plant, *Camellia sinensis* and consist caffeine. Known as beverages made from herbs, fruits, or a mix of some brewed in hot water, herbal teas are becoming popular due to their health benefits. In this study, we commercially available herbal teas from the Philippines were analyzed for their antioxidant capacity. Among the samples used are those from plants which is used in traditional medicine such as banana (*Lagerströmia speciosa*) and warming (*Platanus lanceolata*). Overall, all commercially available herbal teas from banana and lagundi were assessed for their antioxidant activity using the DPPH (2,2-diphenyl-1-picrylhydrazyl) and ABTS (2,2'-azino-bis(3-ethylbenzothiazole-6-sulfonic acid)) assays. Results showed variable numbers in terms of antioxidant activities were among the same herbal plants with banana tea samples showing higher antioxidant activity than sambong tea samples. Determination of the phenol content was also performed using Folin-Ciocalteu method. Results showed a direct relationship between the phenol content and the antioxidant activities of the different samples analyzed.

## METHODS

Herbal teas were analyzed for their antioxidant capacity using the DPPH (2,2-diphenyl-1-picrylhydrazyl) and ABTS (2,2'-azino-bis(3-ethylbenzothiazole-6-sulfonic acid)) assays. Results showed variable numbers in terms of antioxidant activities were among the same herbal plants with banana tea samples showing higher antioxidant activity than sambong tea samples. Determination of the phenol content was also performed using Folin-Ciocalteu method. Results showed a direct relationship between the phenol content and the antioxidant activities of the different samples analyzed.

## METHODOLOGY

50 mL of freshly boiled water for 5 min. The infusions were analyzed for absorbance using UV-Vis spectrometer (JASCO). Antioxidant properties were determined in a microplate based plate reader. Ascorbic acid was used as standard in both assays. The tea infusions/standards of different concentrations were mixed with the reagent for 4 minutes on a microplate, after which 100  $\mu$ L of 1 M ascorbic acid was added. The absorbance was measured at 745 nm after 2 hours of incubation. The absorbance of the standard solution (200  $\mu$ L) was mixed with the reagent and its absorbance at 510 nm was obtained after 2 hours of incubation.

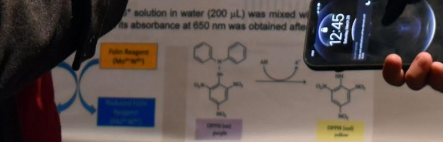


Figure 1



Figure 2



Figure 3

Antioxidant activity of two herbal tea samples.

Samples	DPPH	ABTS
Banana	4.12 $\pm$ 1.34	2.25 $\pm$ 0.04
Lagundi	3.84 $\pm$ 0.14	0.24 $\pm$ 0.04
Sambong	19.78 $\pm$ 9.40	19.87 $\pm$ 2.34
Ylang-ylang	208.15 $\pm$ 20.05	43.40 $\pm$ 9.42
Peppermint	145.34 $\pm$ 18.47	16.20 $\pm$ 4.80
Spearmint	205.19 $\pm$ 32.42	63.60 $\pm$ 7.32

Antioxidant activity of two herbal tea samples. The second

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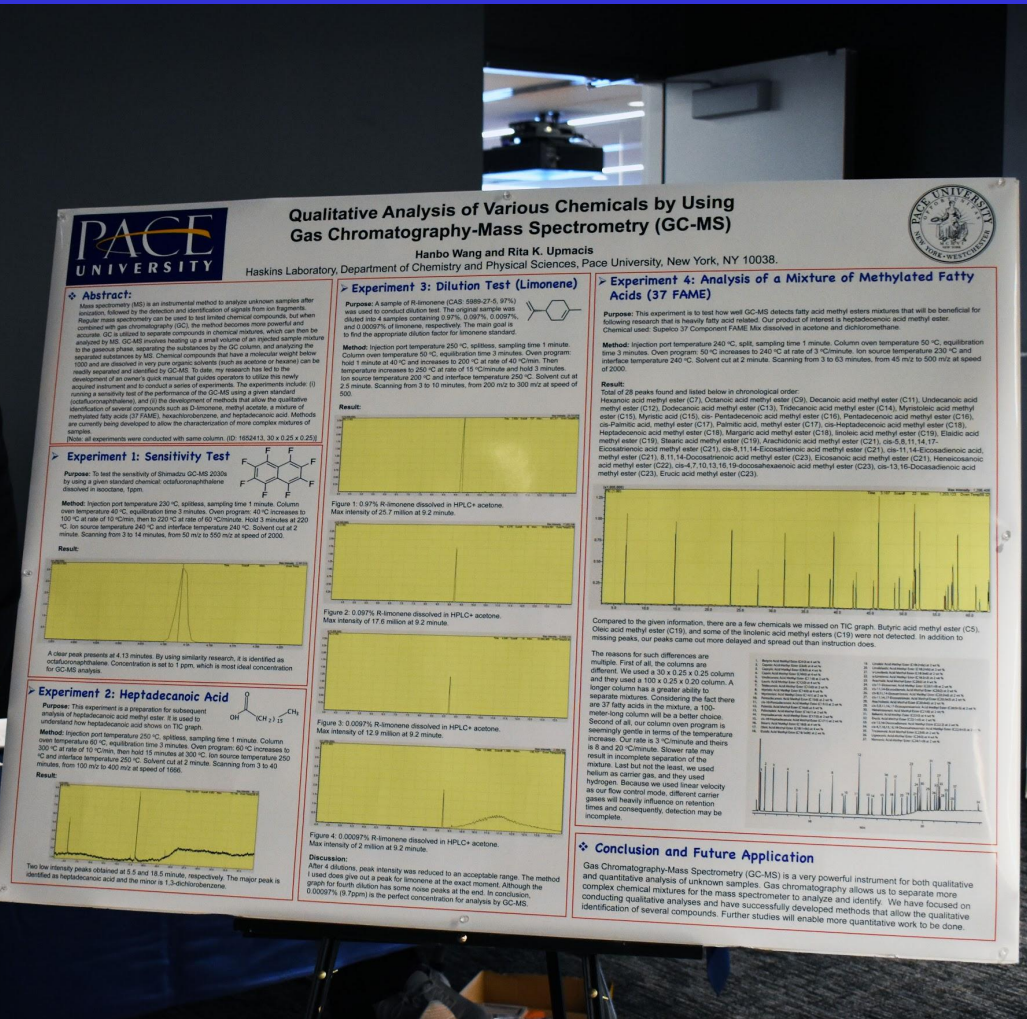
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Click on [Classroom](#)

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- Click on the Zoom Meeting link to join your desired room

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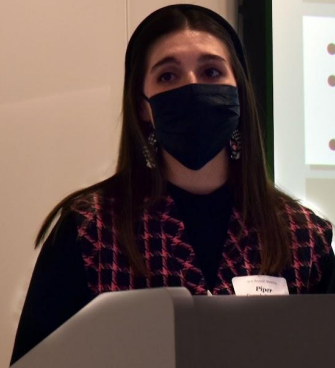
Christine

Frank









## *The Atlanta Campaign*

- The Union offensive campaign to capture the city of Atlanta
- Captured on September 3, 1864
- "...[the destruction] of all depots, car-houses, shops, factories, foundries...etc."

## *The March*

- Began in early November 1864
- Separated into 2 flanks to ensure that they created as much damage as possible while still capturing the state capital
- Sherman used psychological warfare against Southern civilians

## *Savannah*

## *Sherman's Economic*



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## Purpose of Research



Issues pertaining to public health are often seen as negative. This is not the case, and as you will see, ignorance has negative effects on not only the individual, but the community as well.



Specifically on how a country's wealth affects its mortality rate. The public health initiatives set in place play a critical role in the response of its citizens. Our current issues demonstrate that principle.

- In the United States, as a person's income increases, so does their health. This is not reckless, but the economic system is designed to benefit the wealthy.

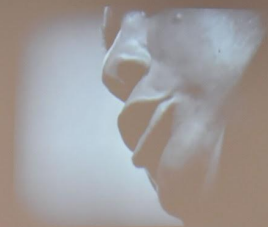
- My research focuses on the health of the male skin, which is often overlooked by the medical community, and the role of citizens, and the impact of the environment on the skin.







LA PASSION DE JEANNE D'ARC, 1928





## Introduction

- Over 106,000 people are on the waitlist to receive an organ transplant (OPTN, 2021)
- United States currently operates on an altruistic, opt-in policy (Clazier and Mone, 2019)
- Common misconceptions prevent college students from signing-up
- **Research question:** Can nudge theory increase the enrollment rates of college students becoming organ donors?
- Behavioral Economics: theory of economic decision-making
- Nudge theory: indirect suggestions that promote positive decision-making







### Nudge design

- Created a three-minute video to treatment group
- Addressed the organ shortage, general statistics, common misconceptions, and ways to register
  - > Targeted information on the transplant process and ways to register as a donor
- Gainframe, positive messaging (Reinheart et al, 2007)
- Avoided using the word "you"
- Included a Pace student's quote who received a tissue transplant

### Nudge design

- Created a t
- Addressed misconcep
- > Targeted register as a
- Gainframe,
- Avoided usi
- Included a t transplant

## Wondering why this isn't a focus?

- Budget and funding resources
- High-inflation rates
- Millennials, for the most part, haven't had kids yet and student debt is a bigger issue for them.
- Also, those who have had kids, once that chapter is over its over and most people don't look back.

































