# SILLIMAN *JOURNAL*

Volume 65 Number 1 2024

# *S*ILLIMAN

# *J*OURNAL

**IN THIS ISSUE**

Alfie Q. Arcelo
Steven M. Binarao
Anton Van J C. Catalan
Warlito S. Caturay Jr.
Karl Josh L. Collarin
Phillip Raymund R. De Oca
Wyeth G. Dogelio
Theresa A. Guino-o
Philip Godfrey C. Jakosalem
Markus A. Launer
Freslyn Lim-Saco
Lance Querubin A. Mabugat
Dave E. Marcial
John Dave R. Masiado
Jade O. Montemayor
Lisa Marie J. Paguntalan
Mark Anthony M. Quintos
Kim G. Sarong
Lara Lois D. Te
Roem T. Tuparan

# TABLE OF CONTENTS

**Editor's Notes**

"No research without action, no action without research."

-Kurt Lewin

Welcome to the first issue of Silliman Journal 2024! Six full-length articles across disciplines are featured in this issue.

It opens with a study whose results are aimed to be used for urban management, specifically on bird diversity, in Negros Occidental. Lance Querubin A. Mabugat, Anton Van J C. Catalan, Lara Lois D. Te, Karl Josh L. Collarin, John Dave R. Masiado, Wyeth G. Dogelio, Phillip Raymund R. De Oca, Philip Godfrey C. Jakosalem, and Lisa Marie J. Paguntalan examined the bird species composition, abundance, diversity, evenness, and dominance at Bacolod Panaad Park and Stadium, and Provincial Capitol Park and Lagoon, using the point transect method across seven stations in each identified locale.

It is followed  by Dave E. Marcial, Alfie Q. Arcelo, Jade O. Montemayor, Steven M. Binarao, and Markus A. Launer's "Digital Trust and Personality Types among Employees in the Workplace," which investigated the relationship between personality and digital trust, positing that trust is an important factor affecting individuals' willingness to accept and incorporate technology use in their lives.

In the third article, Mark Anthony M. Quintos endeavored to examine the suicide prevention bills in the Philippines. By reviewing the bills filed in the Philippine Congress and comparing them with the provisions of R.A. 11036, Quintos is able to evaluate the sufficiency of the most recent passage of a law to deal with the suicide problem.

Continuing professional development is crucial to one's professional practice since it helps update one's knowledge and skills. This is especially true in the nursing profession. In their article, Freslyn Lim-Saco and Theresa A. Guino-o explored the CPD needs and barriers among nurses in Negros Oriental.

In his paper, Kim G. Sarong investigated and identified the obstacles and challenges to achieving precision medicine in a small-scale local study. The qualitative research involved small group discussions, key informant

interviews, and a review of secondary data.

The last paper by Roem T. Tuparan and Warlito S. Caturay Jr. examined the academic essays of English major students at a state university in the Philippines. The major objective of their study was to identify language learners' errors and their sources.

The cover art is by visual artist and fashion designer  Dan Ryan Duran. "Laro ng Apoy" is a collaged painting referenced from a vintage photo of a woman and a volcano.

*Warlito S. Caturay Jr. , PhD*

# Bird Species Composition, Abundance, Diversity, and Evenness at Panaad Park and Stadium and Provincial Capitol Park and Lagoon, Bacolod City, Negros Occidental

Lance Querubin A. Mabugat[1], Anton Van J C. Catalan[1], Lara Lois D. Te[1], Karl Josh L. Collarin[1], John Dave R. Masiado[1], Wyeth G. Dogelio[1], Phillip Raymund R. De Oca[1], Philip Godfrey C. Jakosalem[2], Lisa Marie J. Paguntalan[2]
*Corresponding Author @Phillipraymund.deoca@deped.gov.ph*
*1 Science Technology and Engineering Program - Bacolod City National High School*
*2 Philippines Biodiversity Conservation Foundation, Inc.*

## Abstract

This study assessed bird species composition, abundance, diversity, evenness, and species dominance in Bacolod Panaad Park and Stadium and Provincial Capitol Park and Lagoon. The point transect method was employed for seven (7) stations plotted in both locales. Five hundred eleven (511) bird individuals were recorded comprising thirty (30) species. Six (6) were endemic, 19 were residents, 3 were introduced, and 2 were migrants. Only one recorded species, Lonchura oryzivora, which is an introduced species in the Philippines and native to Indonesia, was considered endangered based on the IUCN classification. Meanwhile, Passer montanus was the most abundant in both sites. The assessment also revealed that Panaad Park and Stadium had a higher diversity index and dominance of species, while Provincial Capitol Park and Lagoon had a highly even distribution of the composition of species. Based on habitat assessment, Bacolod Panaad Park and Stadium had a better index of distance to the nearest road, number of trees, and tree height compared to Provincial Capitol Park and Lagoon which was closer to water. Moreover, the results of this study will be used as baseline information in strengthening the urban management in Negros Occidental, with an emphasis on bird diversity.

**Keywords:** Species Composition, Diversity, Abundance, Evenness, City Biodiversity Index

## Introduction

Birds have a variety of roles in ecosystems, as they can be predators, pollinators, scavengers, seed dispersers, seed predators, and ecosystem engineers, among others (Whelan et al., 2008). They are sensitive to environmental changes and can be bioindicators of environmental health (Ferenc et al., 2014; Lepczyk & Warren, 2012). Though birds are the most prominent urban wildlife species, humans have a detrimental impact on their natural habitat due to various activities, including deforestation, roads, the energy sector (renewable and coal), mining, climate change, and recently urbanization (Scanes, 2018; Evans et al., 2009; Strohbach et al., 2009; Rodricks, 2018).

In 2020, over 50% of the world's population lives in urban areas making urbanization persistent and the largest threat to bird diversity (World Bank, 2022; United Nations, 2020; Li et al., 2020; Isaksson et al., 2018; Open Forum: The Evolution of Urban Life, n.d.). Population growth makes cities more centralized and increases urban areas. Thus, inherent to urban areas are habitat fragmentation, loss, and change for numerous species (Marzluff, 2001), as species richness reduces with increasing urbanization (Jasmani et al., 2016; Sandström et al., 2006). However, urbanized cities can still support bird diversity with vegetation remnants and green spaces like parks (Callaghan et al., 2018). Urban landscapes like parks are proven biodiversity hotspots, and research on these areas provides the most recent status of bird diversity (Gatesire et al., 2014).

Previous studies have raised efforts to conserve birds, especially in highly urbanized cities. Vallejo et al. (2008) and Yuan et al. (2018) recognized that green spaces in urbanized areas host patterns of bird diversity. Other studies used park and green space characteristics to relate with and predict bird diversity (Huang et al., 2022; Thomson et al, 2022, Vasquez and Wood, 2022; Callaghan et al., 2018). Yang et al. (2020), found that park size, habitat diversity, and distance to the city center emerged as the most effective positive predators of bird species richness. Vegetation density, amount and area of green space, and available bodies of water were other determinants of bird diversity in urban green spaces (Dale, 2018; Khera et al., 2009; Chamberlain et al., 2007).

The potential of green spaces in highly urbanized cities is recognized, and efforts to conserve and manage biodiversity have led the Convention on Biological Diversity (CBD) to craft the City Biodiversity Index (CBI), an instrument for the conservation and management of biodiversity (Kohsaka & Uchiyama, 2013). Its adoption in Philippine urban biodiversity has

Lance Querubin A. Mabugat, Anton Van J C. Catalan, Lara Lois D. Te, Karl Josh L. Collarin, John Dave R. Masiado, Wyeth G. Dogelio, Phillip Raymund R. De Oca, Philip Godfrey C. Jakosalem, Lisa Marie J. Paguntalan

11

already been part of discussions for sustainability schemes in urbanized areas (Delima-Baron, 2022). One indicator of CBI is the documentation of native bird species in the city and how they are conserved (Uchiyama et al., 2015). In Negros Occidental, local government units now prioritize urban planning with emphasis on native biodiversity specifically birds. Though an integral requirement, bird profile still needs to be studied in its most urbanized city, Bacolod, and the dearth of comprehensive surveys in the locale is evident in the literature.

In this study, bird species composition, abundance, diversity, evenness, and species dominance in Bacolod Panaad Park and Stadium and Provincial Capitol Park and Lagoon were assessed. Results can provide baseline information on native bird diversity in the city and generate insights for local sustainability actions, a step towards complying with city biodiversity indicators.

## Methodology

The bird diversity at Bacolod Panaad Park and Stadium and Provincial Capitol Park and Lagoon were assessed via the point transect method and the use of a bird guidebook (Jakosalem et al., 2019). As shown in Figure 1, both sites are located in Bacolod City, a highly urbanized city in Central Philippines.

Bird observations were done 3 to 4 times a week from May 2022 to June 2022 within a valid period adherent to Wildlife Gratuitous Permit No. R6-2014-001 issued by the Office of the Regional Executive Director of DENR, Iloilo City.

Equipment used were DSLR Nikon AF-S DX NIKKOR 18-55mm and Samsung WB100 4.0-104.0 mm camera, tabular list of birds found in the locale, Nikon Monarch M511 10×42 5.5° binoculars, a Nikon Prostaff P511 10×42 5.6° binocular, Celestron 22-66×100 Spotting Scope, Benro Tripod, bird transect form, measuring tape, Google Maps/Earth, photographic and bird guide of birds of Negros, Panay, and Cebu.

**Figure 1**

*Map of the Philippines, Negros Island, and Survey Sites Taken from Google Earth: Panaad Park and Stadium and Provincial Capitol Park and Lagoon*
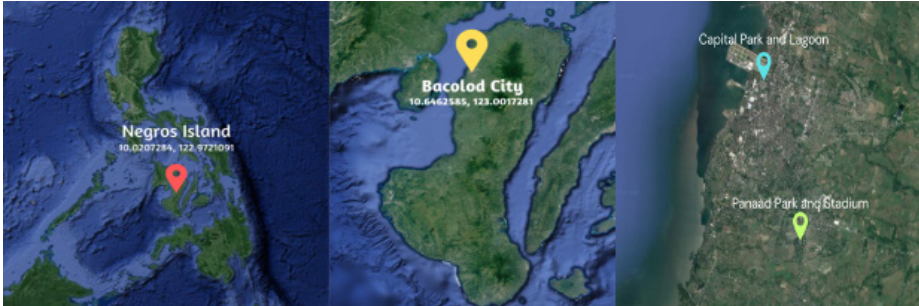


Several practice surveys were done to discover any possible concerns and limits in the study site (Hostetler & Main, 2001). Digiscoping was also employed using a phone and a spotting scope to capture the images of species. Moreover, non-colorful clothes were used to avoid attracting or warning other birds (Hostetler & Main, 2001).

**Point Transect Method and Bird Observations Using Point Counts**

The Point transect method was used instead of the line transect. The former is better when surveying a larger element of bird fauna and is easier when identifying birds that are perching since observers stay at one point at a time duration (Bibby et al., 1998).

In the point transect method, six (6) stations, 250 meters apart from each other are plotted in Bacolod Panaad Park and Stadium, and one (1) station in Provincial Capitol Park and Lagoon (Hostetler & Main, 2001; Emlen, 1977).

Using a satellite imagery map from Google Earth, the area of both sites was assessed and locations of predetermined stations were established. Plot points were set in the Google map to indicate the location of every station. Coordinates (Latitude, Longitude) per station in both sites are shown in Tables 1 and 2.

Birds were observed by the researchers in each station while species' frequency of sightings, general bird movement, and behavior across the route were recorded in the transect form sheets (Vallejo et al., 2009). Birds were only recorded if they entered within the 30-meter radius of each station, and flying birds are excluded (Hostetler & Main, 2001).

The observers were divided into two groups and assigned to three (3) stations each to avoid double encounters. Each team consisted of two

Lance Querubin A. Mabugat, Anton Van J C. Catalan, Lara Lois D. Te, Karl Josh L. Collarin, John Dave
R. Masiado, Wyeth G. Dogelio, Phillip Raymund R. De Oca, Philip Godfrey C. Jakosalem, Lisa Marie
J. Paguntalan

13

(2) observers with separate 180-degree angle field of view to ensure whole area observation and one (1) writer to encode the recorded data into a data sheet. The survey in each station lasted for five (5) minutes. Tallying was not employed in listing down or recording the data on the datasheet.

**Table 1**
*Bacolod Panaad Park and Stadium Station Coordinates*

|  | Latitude | Longitude |
|---|---|---|
| Station 1 | 10.6247336 | 122.9628686 |
| Station 2 | 10.6247064 | 122.963091 |
| Station 3 | 10.6260395 | 122.9634668 |
| Station 4 | 10.6265481 | 122.9658433 |
| Station 5 | 10.6257188 | 122.9674207 |
| Station 6 | 10.6247286 | 122.9658118 |

**Table 2**
*Provincial Capitol Lagoon Station Coordinates*

|  | Latitude | Longitude |
|---|---|---|
| Provincial Capitol Park and Lagoon | 10.6761564 | 122.9516381 |

**Figure 2**
*Provincial Capitol Park and Lagoon Plotted Stations taken from Google Earth*

**Figure 3**
*Panaad Park and Stadium Plotted Stations taken from Google Earth*
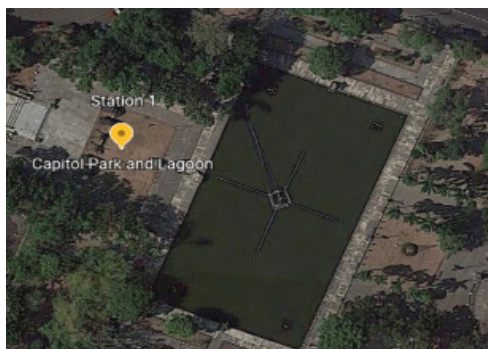
## Site Description

### *Bacolod Panaad Park and Stadium*

The Bacolod Panaad Park and Stadium is a 25-hectare area with approximately 6,000 trees, a suitable habitat for birds. Buildings and facilities are found within the area that are used for events and recreational activities. The site is also near major roads and a river.

### *Provincial Capitol Park and Lagoon*

The Provincial Capitol Park and Lagoon is a 3.87-hectare area surrounded by major roads. It is a rectangular-shaped park with trees together with a lagoon at the center. It is a recreational area surrounded by tall buildings and condominiums.

### *Habitat Description*

Parameters were measured to determine habitat characteristics and features that potentially intervene with bird diversity. Parameters included the tree trunk diameter at breast height (Stagoll et al., 2012); distance of each adjacent tree; tree height; distance from the nearest busy road, and distance from the nearest body of water.

Lance Querubin A. Mabugat, Anton Van J C. Catalan, Lara Lois D. Te, Karl Josh L. Collarin, John Dave R. Masiado, Wyeth G. Dogelio, Phillip Raymund R. De Oca, Philip Godfrey C. Jakosalem, Lisa Marie J. Paguntalan

15

## Habitat Assessment

**Table 3**

*Bacolod Panaad Park and Stadium and Provincial Capitol Park and Lagoon Habitat Assessment*

| | Avg. Tree Trunk Diameter at Breast Height | Avg. Distance Measured to each Adjacent Tree | Estimated Distance from nearest Busy Road | Estimated Distance from the nearest Body of Water |
|---|---|---|---|---|
| *Bacolod Panaad Park and Stadium* | | | | |
| Station 1 | 0.55 m | 1.98 m | 1,030 m | 445 m |
| Station 2 | 1.17 m | 4.13 m | 880 m | 80 m |
| Station 3 | 0.95 m | 4.21 m | 765 m | 85 m |
| Station 4 | 1.6 m | 5.2 m | 650 m | 410 m |
| Station 5 | 1.41 m | 2.27 m | 735 m | 535 m |
| Station 6 | 1.26 m | 4.21 m | 900 m | 375 m |
| *Provincial Capitol Park and Lagoon* | | | | |
| Station 1 | 1.93 m | 8.25 m | 116.67 m | 65 m |

## Bacolod Panaad Park and Stadium

As regards average tree trunk diameter at breast height, Station 5 was the thickest, while Station 1 was the least in diameter. Station 1 had trees with the closest distance to each other, while in Station 4, trees had the farthest distances. There were two (2) busy roads outside Bacolod Panaad Park and Stadium. Station 4 was the nearest to a busy road with a 650-meter distance, while Station 1 with a 1,030-meter distance from a busy road, was the farthest. The closest station to the nearest body of water was Station 2.

## Provincial Capitol Park and Lagoon

The average tree trunk diameter at breast height was 1.93 m, with an average distance of 8.25 between each adjacent tree. The distance of the nearest busy road was measured only from the north, east, and west because the road in the southern area was not busy. The sum of the distances was divided by three (3) to determine the average. Lastly, the distance from the nearest body of water was estimated at 65 m from Station 1 to the center of the lagoon.

**Table 4**

*Bacolod Panaad Park and Stadium and Provincial Capitol Park and Lagoon Habitat Assessment Summary*

|  | Bacolod Panaad Park and Stadium (n=6) | Provincial Capitol Park and Lagoon (n=1) |
|---|---|---|
| Diameter at Breast Height (DBH) | 0.24 m-1.65 m | 0.67 m-2.37 m |
| Distance to Body of Water | Approx. 321.67 m | Approx. 65 m |
| Distance to Nearest Busy Road | Avg. 826.67 m | Avg. 165.60 m |
| Number of Trees | Estimated 400 trees | Estimated 30 - 40 trees |
| Tree Height | Estimated 10-20 m | Estimated 7-15 m |

Table 4 presents a habitat assessment data summary in both sites to provide insights on developing an index to evaluate the security of the city's biodiversity. In Provincial Capitol Park and Lagoon, trees were thicker in diameter at breast height compared to those in Panaad Park and Stadium; however, Panaad had greater estimated tree height and number of trees compared to Lagoon. Both locales had a slightly similar distance to the nearest body of water, but Panaad Park and Stadium were significantly closer. Meanwhile, Provincial Capitol Park and Lagoon were closer to busy roads compared to Panaad Park and Stadium.

Despite having more infrastructures, vegetation was abundant in Panaad Park and Stadium since it had a wider area and more space for propagation, making it a better habitation for the birds than Provincial Capitol Park and Lagoon.

**Data Analysis**

To compare and measure the diversity index (H'), the researchers used the Shannon - Weiner equation (Gatesire et al., 2014). This index is a way to measure the diversity of species in a community and it is defined by the number of individuals observed for each species in the environment. The Shannon - Weiner Diversity Index is calculated using this formula:

$$H = -\Sigma pi * \ln(pi)$$

where H' is the Shannon-Wiener diversity index, Pi is the proportion of each species in a sample, and LN (Pi) is the natural

Lance Querubin A. Mabugat, Anton Van J C. Catalan, Lara Lois D. Te, Karl Josh L. Collarin, John Dave R. Masiado, Wyeth G. Dogelio, Phillip Raymund R. De Oca, Philip Godfrey C. Jakosalem, Lisa Marie J. Paguntalan

17

logarithm of the proportion (Paguntalan et al., 2020). The Shannon Equitability Index is a method of determining the species' equality in a community. This refers to the degree to which the abundances of various species in a community are similar. It is denoted as EH which is calculated using this formula:

$$EH = H/\ln(S)$$

where (H) is the Shannon Diversity Index and the natural logarithm of the total number of species (k).

## Results and Discussion

### Adequacy of Sampling

**Figure 4**
*Urban Bird Species Composition of Two Parks in Bacolod City (May - June 2022)*
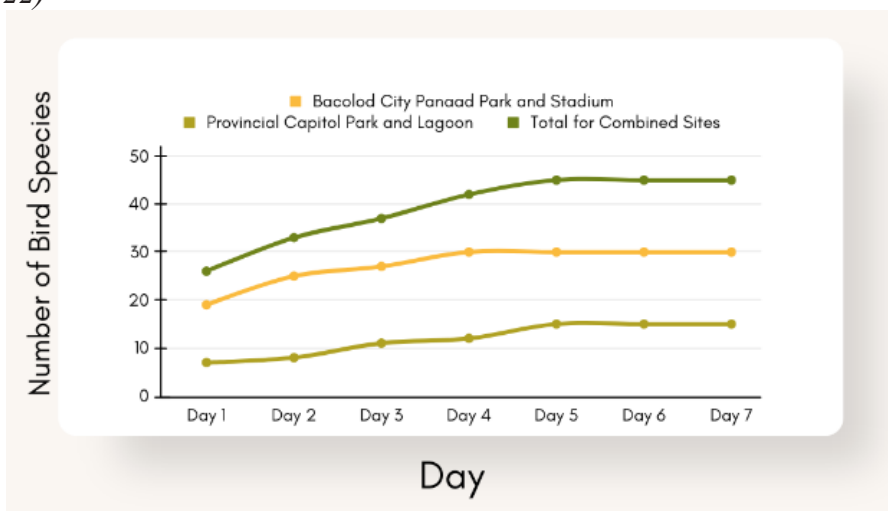


The record of bird observations was included in the bird species checklist used for data analysis. The sample data from observations resembled the baseline for the researchers to decide whether to cease the data collection once the data saturates.

Based on the figure above, the data saturates earlier for Provincial Capitol Park and Lagoon than for Bacolod City Panaad Park and Stadium. Day 1 of conducting the bird survey in Provincial Capitol Park and Lagoon started with seven (7) recorded species and continued to increase until Day 5. However, the number of species did not increase from Day 6 and reached its plateau of 15 recorded species on Day 7. In Bacolod City Panaad Park

18

Bird Species Composition, Abundance, Diversity, and Evenness at Panaad Park and
Stadium and Provincial Capitol Park and Lagoon, Bacolod City, Negros Occidental

and Stadium, the bird checklist started with 19 bird species, and it added more species in the following days. Day 4 had 30 recorded bird species and reached its plateau on Day 7.

**Species composition and abundance**

**Figure 5**
*Urban bird species composition of two parks in Bacolod City (April - June 2022)*
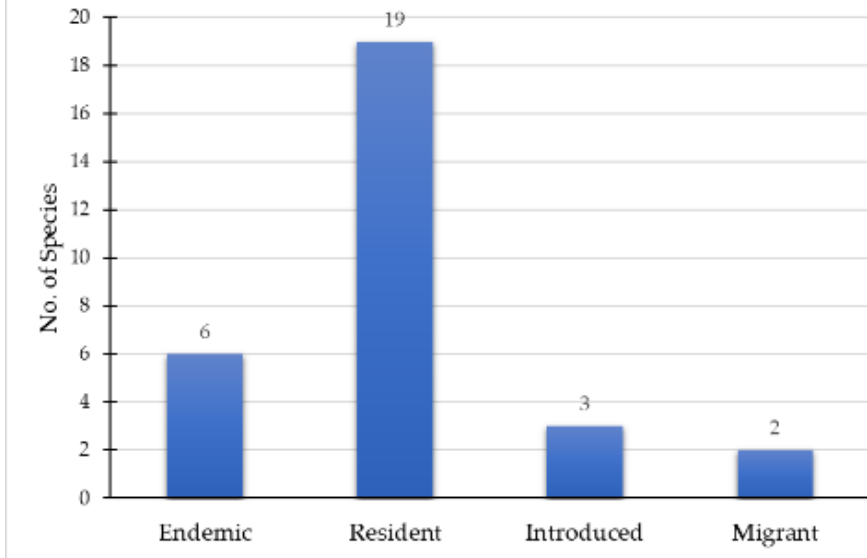


The composition of bird species of both locales (Figure 5) were 19 residents, 6 endemic, 3 introduced, and 2 migrant species, consistent with the trend from accounts of Banzon et al. (2022), Medina and Cabras (2018), and Vallejo et al., (2008). Endemic bird species consisted of the Philippine Glossy Swiftlet, Philippine Coucal, Philippine Pied Fantail, Chestnut-crowned Tailorbird, Low-land White-eye, and Philippine Magpie-robin. Introduced bird species were composed of Crested Myna, Java Sparrow, and Eurasian Tree Sparrow. The (2) two migrant species were the Philippine Brown Shrike and Barn Swallow, also documented in the green spaces of Davao City (Banzon et al., 2022).

Lance Querubin A. Mabugat, Anton Van J C. Catalan, Lara Lois D. Te, Karl Josh L. Collarin, John Dave R. Masiado, Wyeth G. Dogelio, Phillip Raymund R. De Oca, Philip Godfrey C. Jakosalem, Lisa Marie J. Paguntalan

19

**Figure 6**

*Top 5 Most Abundant Birds within the 2 Parks in Bacolod City (April - June 2022)*
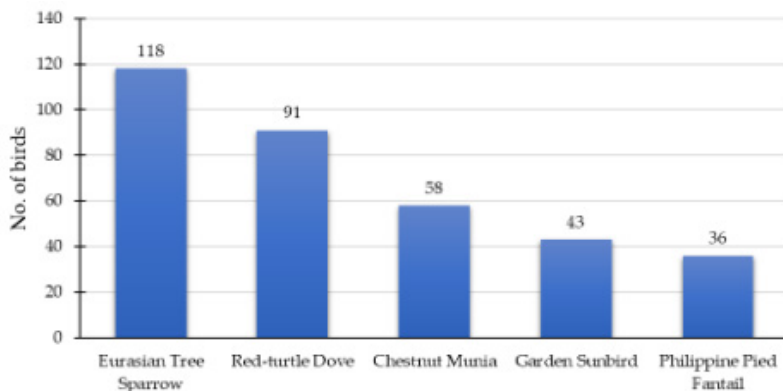


The abundance of birds was totaled for both locales. Eurasian Tree Sparrow is the most abundant bird species (118) followed by the Red-turtle Dove (91), the Chestnut Munia (58), the Garden Sunbird (43), and the Philippine Pied Fantail (36). The Eurasian Tree Sparrow was a very common bird species in both locales; they would fly or perch in groups on trees, buildings, and the ground. In the study of Banzon et al. (2022) and Ong et al. (2007), it was also the most encountered species. Its abundance is attributed to its adaptation in highly disturbed areas that eventually allow it to dominate.

**New Island Record**

*Lowland White-eye perching on a branch at Panaad Park and Stadium Photos by: Godfrey Philip C.Jakosalem*

Lowland white-eyes or Zosterops meyeni were spotted in both locales. This bird species was observed to be gathering in small groups perching around the branches of trees and also seen alone or in pairs and frequently transferred to other spaces. Four (4) Lowland white eyes were spotted at the Provincial Capitol Park and Lagoon, and one (1) was spotted in Bacolod Panaad Park and Stadium. In total, the number of Lowland white-eyes spotted was a new island record in Negros Occidental.

**Bird Checklist**

A total of 30 different bird species were spotted both in Bacolod Panaad Park and Stadium and Provincial Capitol Park and Lagoon, lower than the 31 species recorded by Banzon et al. (2022), 33 species by Vallejo et al. (2008), and 47 species documented by Ong et al. (2007), from green spaces in the Philippines. Twenty-nine (29) bird species were classified as LC or Least Concerned, and only one species (Lonchura oryzivora) was classified as Endangered (iucnredlist.org), found in Station 1 of Bacolod Panaad Park and Stadium. Furthermore, in Brinkman et al.'s (2023) bird checklist, the Java Sparrow (Lonchura oryzivora) is also classified as an Introduced species in the Philippines. They are mostly seen in groups and they perch around tall grass and bushes. BirdLife International (2020), considers it a species of global conservation concern with a very low rate of occurrence. Records of its occurrences along green spaces were also found in Thaweepworadej and Evans (2022) and Rosyadi et al. (2019). Additionally, birds in the checklist were classified as Least Concerned or LC in the DENR classification (Brinkman et al., 2023)

The most abundant species in Bacolod Panaad Park and Stadium were the Eurasian Tree Sparrow, Red Turtle Dove, Chestnut Munia, and Pied Fantail, while the Eurasian Tree Sparrow, Crested Myna, and Starling were the most abundant in the Provincial Capitol Park and Lagoon.

**Table 5**
*Bacolod Panaad Park and Stadium and Provincial Capitol Park and Lagoon Bird Checklist*

| Common Name | Conservation Status | IUCN 2020 Classification | D E N R Classification | Lagoon | Panaad |
|---|---|---|---|---|---|
| Red Turtle-dove Streptopelia tranquebarica | Resident | LC | LC | 3 (0.08) | 88 (0.15) |

Lance Querubin A. Mabugat, Anton Van J C. Catalan, Lara Lois D. Te, Karl Josh L. Collarin, John Dave R. Masiado, Wyeth G. Dogelio, Phillip Raymund R. De Oca, Philip Godfrey C. Jakosalem, Lisa Marie J. Paguntalan

21

| | | | | | |
|---|---|---|---|---|---|
| Zebra Dove Geopelia striata | Resident | LC | LC | 3 (0.08) | 22 (0.04) |
| Philippine Glossy Swiftlet Collocalia marginata | Endemic | LC | LC | | 10 (0.02) |
| Philippine coucal Centropus viridis | Endemic | LC | LC | | 1 (0.00) |
| Rusty-breasted Cuckoo Cacomantis sepulcralis | Resident | LC | LC | | 2 (0.00) |
| Barred Rail Hypotaenidia torquata | Resident | LC | LC | | |
| Black-crowned Night-heron Nycticorax nycticorax | Resident | LC | LC | | 1 (0.00) |
| Little Egret Egretta garzetta | Resident | LC | LC | | 3 (0.01) |
| Brahminy Kite Haliastur indus | Resident | LC | LC | | 1 (0.00) |
| White-throated Kingfisher Halcyon gularis | Resident | LC | LC | | 1 (0.00) |
| Collared Kingfisher Todiramphus chloris | Resident | LC | LC | 3 (0.08) | 17 (0.03) |
| Black-naped Oriole Oriolus chinensis | Resident | LC | LC | | |
| Pied Triller Lalage nigra | Resident | LC | LC | | 3 (0.01) |

22

Bird Species Composition, Abundance, Diversity, and Evenness at Panaad Park and Stadium and Provincial Capitol Park and Lagoon, Bacolod City, Negros Occidental

| Species | Status | | | | |
|---|---|---|---|---|---|
| White-breasted Woodswallow *Artamus leucorynchus* | Resident | LC | LC | | 2 (0.00) |
| Philippine Pied Fantail *Rhipidura nigritorquis* | Endemic | LC | LC | 3 (0.08) | 33 (0.06) |
| Philippine Brown Shrike *Lanius cristatus* | Migrant | LC | LC | | 3 (0.01) |
| Chestnut-crowned Tailorbird *Orthotomus castaneiceps* | Endemic | LC | LC | | 2 (0.00) |
| Striated Grassbird *Megalurus palustris* | Resident | LC | LC | | 10 (0.02) |
| Barn Swallow *Hirundo rustica* | Migrant | LC | LC | | |
| Pacific/Tahiti Swallow *Hirundo tahitica* | Resident | LC | LC | | |
| Yellow-vented Bulbul *Pycnonotus goiavier* | Resident | LC | LC | | |
| Low-land White-eye *Zosterops meyeni* | Endemic | LC | LC | 4 (0.10) | |
| Crested Myna *Acridotheres cristatellus* | Introduced | LC | LC | 7 (0.018) | |
| Asian Glossy Starling *Aplonis panayensis* | Resident | LC | LC | 6 (0.15) | |
| Philippine Magpie-robin *Copsychus mindanensis* | Endemic | LC | LC | | |

Lance Querubin A. Mabugat, Anton Van J C. Catalan, Lara Lois D. Te, Karl Josh L. Collarin, John Dave R. Masiado, Wyeth G. Dogelio, Phillip Raymund R. De Oca, Philip Godfrey C. Jakosalem, Lisa Marie J. Paguntalan

23

| | | | | | |
|---|---|---|---|---|---|
| Garden Sunbird Cinnyris jugularis | Resident | LC | LC | | 43 (0.07) |
| Scaly-breasted Munia Lonchura nisoria | Resident | LC | LC | | 4 (0.01) |
| Chestnut Munia Lonchura atricapilla | Resident | LC | LC | 1 (0.03) | 57 (0.10) |
| Java Sparrow Lonchura oryzivora | Introduced | EN | LC | | 21 (0.04) |
| Eurasian Tree Sparrow Passer montanus | Introduced | LC | LC | 10 (0.25) | 108 (0.19) |
| | | | Total Tally: | 40 | 471 |

A bird checklist was made to take note of species in both locales. There were 30 bird species in Bacolod Panaad Park and Stadium and 15 bird species in Provincial Capitol Park and Lagoon. However, birds that were seen flying were included in the bird checklist but removed in the data analysis where their relative abundances were calculated. Therefore, there were nine (9) species recorded from Provincial Capitol Park and Lagoon and 27 species from Bacolod Panaad Park and Stadium.

In the data, Bacolod Panaad Park and Stadium recorded a higher number of species than Provincial Capitol Park and Lagoon where eight (8) species were seen or observed in both locales. These eight (8) species consisted of the Red Turtle Dove, Zebra Dove, Collared Kingfisher, Philippine Pied Fantail, Low-land White-eye, Asian Glossy Starling, Chestnut Munia, and Eurasian Tree Sparrow. However, 19 observed species in Bacolod Panaad Park and Stadium were not recorded in the Provincial Park and Lagoon (Table 5). These 19 species were composed of Philippine Glossy Swiftlet, Philippine Coucal, Rusty-breasted Cuckoo, Black-crowned Night-heron, Little Egret, Brahminy Kite, White-throated Kingfisher, Pied Triller, White-breasted Woodswallow, Philippine Brown-Shrike, Chestnut Crowned Tailorbird, Striated Grassbird, Barn Swallow, Pacific/Tahiti Swallow, Philippine Yellow-vented Bulbul, Philippine Magpie-robin, Garden sunbird, Scaly-breasted Munia, Java Sparrow. Although Black-crowned night herons and Little

24

Bird Species Composition, Abundance, Diversity, and Evenness at Panaad Park and
Stadium and Provincial Capitol Park and Lagoon, Bacolod City, Negros Occidental

Egrets were known and were always seen perching in Provincial Capitol Park and Lagoon, they were not recorded during the observation because the survey conducting time was set in late afternoons, and they would perch when there was no visible sunlight.

## Diversity, Evenness, and Species Dominance

**Table 6**
*Results for the Biodiversity Indexes for the Two (2) Locales*

| Locale | Total Number of Species | H | Evenness | D |
|---|---|---|---|---|
| Bacolod Panaad Park and Stadium | 27 | 2.40 | 0.73 | 0.12 |
| Provincial Capitol Park & Lagoon | 9 | 2.04 | 0.93 | 0.13 |

Bacolod Panaad Park and Stadium have a higher diversity index (H'=2.40) with a total number of 27 species compared to Provincial Capitol Park and Lagoon with a diversity index of (H'=2.04), and only nine (9) species. The high avifaunal diversity index of Bacolod Panaad Park and Stadium compared to Provincial Capitol Park and Lagoon can be attributed to its size, as larger parks attract more bird species (Murgui, 2007) and provide more ecological space, habitat complexity, better food source, and conducive space for bird communities (Oliver et al., 2011; Evans et al., 2009). According to Schütz and Schulze, (2015), park size is a very important parameter in bird taxonomic and functional diversity metrics. In other studies, park size positively influenced bird diversity (Huang et al., 2022; Leveau et al., 2022; Yang et al., 2020; Murgui, 2007; Cornelis and Hermy, 2004; Fernández-Juricic and Jokimäki 2001).

In regard to the distribution of species, where a value closer to 1 is more even, the Provincial Capitol Park and Lagoon, having a (0.73) evenness value, had a much even distribution (0.93) compared to Bacolod Panaad Park and Stadium. The result is parallel to Thompson et al. (2022), which found that evenness was significantly higher in large parks. Food availability can also explain distribution and evenness variability (Tu et al., 2020). Lastly, Bacolod Panaad Park and Stadium had a greater dominance

Lance Querubin A. Mabugat, Anton Van J C. Catalan, Lara Lois D. Te, Karl Josh L. Collarin, John Dave R. Masiado, Wyeth G. Dogelio, Phillip Raymund R. De Oca, Philip Godfrey C. Jakosalem, Lisa Marie J. Paguntalan

25

of species (D'=0.12) than Provincial Capitol Park & Lagoon (D'=0.13). The diversity index values imply the diversity of bird species in both locales; however, there were bird families with species that are dominant in the said locale. In Bacolod Panaad Park and Stadium, the most dominant family was the Estrildidae which has three (3) species. The three (3) species were composed of Scaly-breasted Munia, Chestnut Munia, and Java Sparrow. The Columbidae, Ardeidae, Alcedinidae, Hirundinidae, and Sturnidae families had at least two (2) species, while the remaining ones had one (1) species.

## Dominant Bird Families

**Figure 8**
*Bar Graph of the Bird Families in Bacolod Panaad Park and Stadium and Provincial Capitol Park and Lagoon*



Bird Families in Bacolod Panaad Park and Stadium and Provincial Capitol Park and Lagoon
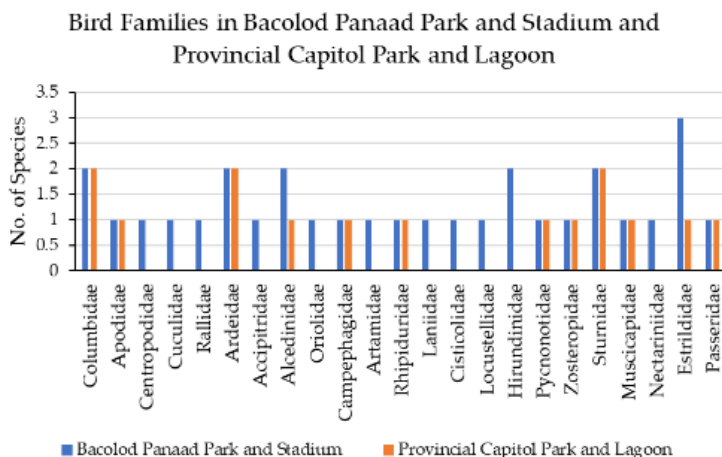
The Provincial Capitol Park and Lagoon had three (3) dominant families having two (2) species which consisted of composed of Columbidae, Ardeidae, and Sturnidae. The Columbidae family consisted of Red Turtle-dove and Zebra Dove, the Ardeidae family was composed of Black-crowned night heron and Little Egret, and the Sturnidae family included Crested Myna and Glossy Starling. The same families had common and abundant species in the records of Banzon et al. (2022), Serrano et al. (2019), and Vallejo et al. (2009).

## Conclusion

The Bacolod Panaad Park and Stadium had higher species richness and diversity compared to Provincial Capitol Park and Lagoon, with 27 and 9 observed species, respectively. Despite similarities in the observed species for both sites, the larger size and better habitat characteristics of Bacolod Panaad Park and Stadium, such as Distance to the Nearest Road, Number of Trees, and Tree Height likely contributed to its higher diversity index.

Notably, the Philippine Glossy Swiftlet Collocalia marginata was the most commonly seen species at Provincial Capitol Park and Lagoon, while the Eurasian Tree Sparrow Passer montanus had the highest number of species seen at the Bacolod Panaad Park and Stadium.

The presence of the Lowland white-eyes (Zosterops meyeni), a new island record, further underscores the importance of these habitats for avian biodiversity. Management efforts should focus on maintaining and enhancing these habitats to support the diverse bird species present, especially considering the EN (Endangered) classification of one species in the area.

## Recommendations

More surveys should be done in both sites to further identify other bird species. Continued monitoring of bird diversity, evenness, and distribution is also encouraged. Since the study is a baseline for the bird diversity profile in an urbanized city of Negros Occidental, it offers insights into the urban planning management of the provincial government which should look into the establishment of more green spaces and urban environmental hotspots in the city.

## References

Banzon, J. P. M., Pingoy, B. A., de la Rosa, V., Otero, M. C. B., Susulan, T. B., Tagoon, M. D. T., ... & Ibanez, J. C. (2022). Diversity of bird species in urban green spaces of Davao City, Mindanao, Philippines. *Philippine Journal of Science, 151*(5), 1943-1952.

Bibby, C. J., Jones, M., & Marsden, S. (1998). *Bird surveys*. Expedition Advisory Centre.

Lance Querubin A. Mabugat, Anton Van J C. Catalan, Lara Lois D. Te, Karl Josh L. Collarin, John Dave R. Masiado, Wyeth G. Dogelio, Phillip Raymund R. De Oca, Philip Godfrey C. Jakosalem, Lisa Marie J. Paguntalan

27

BirdLife International. 2020. *IUCN Red List for birds.* http://www.birdlife.org.

Brinkman et al. (2023): Checklist of Birds of the Philippines. Wild Bird Club of the Philippines. www.birdwatch.ph

Callaghan, C. T., Major, R. E., Lyons, M. B., Martin, J. M., & Kingsford, R. T. (2018). The effects of local and landscape habitat attributes on bird diversity in urban greenspaces. *Ecosphere, 9*(7), e02347.

Chamberlain, D. E., Gough, S., Vaughan, H., Vickery, J. A., & Appleton, G. F. (2007). Determinants of bird species richness in public green spaces. *Bird Study, 54*(1), 87-97.

Cornelis, J., & Hermy, M. (2004). Biodiversity relationships in urban and suburban parks in Flanders. *Landscape and Urban Planning, 69*(4), 385-401.

Delima-Baron, E. M., Ruales, C. A. S., Tripole, C., Tagoon, M. D. T., & Susulan, T. B. (2022). Anurans of select green spaces of Davao City, Mindanao Island, Philippines. *Biodiversitas Journal of Biological Diversity, 23*(9).

Dale, S. (2018). Urban bird community composition influenced by size of urban green spaces, presence of native forest, and urbanization. *Urban Ecosystems, 21*, 1-14.

Emlen, J. T. (1977). Estimating breeding season bird densities from transect counts. *The Auk, 94*(3), 455-468.

Evans, K. L., Newson, S. E., & Gaston, K. J. (2009). Habitat influences on urban avian assemblages. *Ibis, 151*(1), 19-39.

Ferenc, M., Sedláček, O., & Fuchs, R. (2014). How to improve urban greenspace for woodland birds: site and local-scale determinants of bird species richness. *Urban Ecosystems, 17*, 625-640.

Fernandez-Juricic, E., & Jokimäki, J. (2001). A habitat island approach to conserving birds in urban landscapes: Case studies from southern and northern Europe. *Biodiversity & Conservation, 10,* 2023-2043.

Gatesire, T., Nsabimana, D., Nyiramana, A., Seburanga, J. L., & Mirville, M. O. (2014). Bird diversity and distribution in relation to urban landscape types in Northern Rwanda. *The Scientific World Journal,* 2014.

Hostetler, M. E., & Main, M. B. (2001). *Florida monitoring program: Transect method for surveying birds.* Department of Widlife Ecology & Conservation, University of Florida.

Huang, P., Zheng, D., Yan, Y., Xu, W., Zhao, Y., Huang, Z., Ding, Y., Lin, Y., Zhu, Z., & Fu, W. (2022). Effects of Landscape Features on Bird Community in Winter Urban Parks. *Animals, 12*(23), 3442.

Isaksson, C., Rodewald, A. D., & Gil, D. (2018). Behavioural and ecological consequences of urban life in birds. *Frontiers in Ecology and Evolution, 6,* 50.

Jakosalem, P. G., Paguntalan, L. G., Kintanar, V. L., Tan, S. M., Quisumbing, R. J., Quemado, R. D., Osawa, T. (2018). *Photographic guide to the birds of Negros, Panay and Cebu.* [Unpublished Book]

Jasmani, Z., Ravn, H. P., & van den Bosch, C. C. K. (2017). The influence of small urban parks characteristics on bird diversity: A case study of Petaling Jaya, Malaysia. *Urban ecosystems, 20*, 227-243.

Khera, N., Mehta, V., & Sabata, B. C. (2009). Interrelationship of birds and habitat features in urban greenspaces in Delhi, India. *Urban Forestry and Urban Greening, 8*(3), 187-196.

Kohsaka, R., & Uchiyama, Y. (2017). Motivation, strategy and challenges of conserving urban biodiversity in local contexts: Cases of 12 municipalities in Ishikawa, Japan. *Procedia engineering, 198*, 212-218.

Lepczyk, C. A., & Warren, P. S. (Eds.). (2012). *Urban bird ecology and conservation* (Vol. 45). Univ of California Press.

Lance Querubin A. Mabugat, Anton Van J C. Catalan, Lara Lois D. Te, Karl Josh L. Collarin, John Dave R. Masiado, Wyeth G. Dogelio, Phillip Raymund R. De Oca, Philip Godfrey C. Jakosalem, Lisa Marie J. Paguntalan

29

Leveau, L. M., Bocelli, M. L., Quesada-Acuña, S. G., González-Lagos, C., Tapia, P. G., Dri, G. F., ... & Morelli, F. (2022). Bird diversity-environment relationships in urban parks and cemeteries of the Neotropics during breeding and non-breeding seasons. *PeerJ, 10*, e14496.

Li, X., Gong, P., Zhou, Y., Wang, J., Bai, Y., Chen, B., ... & Zhu, Z. (2020). Mapping global urban boundaries from the global artificial impervious area (GAIA) data. *Environmental Research Letters, 15*(9), 094044.

Marzluff, J. M. (2001). Worldwide urbanization and its effects on birds. In *Avian ecology and conservation in an urbanizing world* (pp. 19-47). Springer.

Medina, M. N. D., & Cabras, A. A. (2018). Birds of the University of Mindanao Matina Campus, Davao City, Philippines. *University of Mindanao International Multidisciplinary Research Journal, 3*(1). http://www.umindanao.edu.ph/journal

Murgui, E. (2007). Factors influencing the bird community of urban wooded streets along an annual cycle. *Ornis Fennica, 84*(2), 66.

Oliver, A. J., Hong-Wa, C., Devonshire, J., Olea, K. R., Rivas, G. F., & Gahl, M. K. (2011). Avifauna richness enhanced in large, isolated urban parks. *Landscape and Urban Planning, 102*(4), 215-225.

Ong, P., Pedragosa, M., & de Guia, M. (2007). Wildlife inventory of the University of the Philippines (UP) Diliman and the Ateneo de Manila University Campus Diliman, Quezon City, Luzon, Philippines. *Science Diliman, 11*(1).

*Open forum: The evolution of urban life.* (n.d.). World Economic Forum. Retrieved May 26, 2023, from https://www.weforum.org/open-forum/event_sessions/open-forum-the-evolution-of-urban-life

Paguntalan, L. J., Jakosalem, P. G., Bonares, B., & Oquendo, M. F. J. (2020). significant records of birds in smaller islands in Palawan, Philippines. *e Business Manager, 89.*

Rodricks, S. (2010). Singapore city biodiversity index. *TEEBcase, 4.*

Rosyadi, I., Rudiyanto, A., Abdurrahman, H. S., & Pamuji, W. S. (2019). Conservation of Java Sparrow Lonchura oryzivora in Gn Sewu Geopark, Yogyakarta province, Java, Indonesia. *BirdingASIA, 32,* 34-37.

Sandström, U. G., Angelstam, P., & Mikusiński, G. (2006). Ecological diversity of birds in relation to the structure of urban green space. *Landscape and urban planning, 77*(1-2), 39-53.

Scanes, C. G. (2018). Human activity and habitat loss: destruction, fragmentation, and degradation. In *Animals and human society* (pp.451-482). Academic Press.

Serrano, J. E., Guerrero, J. J., Quimpo, J. D., Andes, G. C., Bañares, E. N., & General, M. A. (2019). Avifauna survey within a University Campus and adjacent forest fragment in Bicol, Eastern Philippines. *Applied Environmental Research, 41*(2), 84-95.

Stagoll, K., Lindenmayer, D. B., Knight, E., Fischer, J., & Manning, A. D. (2012). Large trees are keystone structures in urban parks. *Conservation Letters, 5*(2), 115-122.

Strohbach, M. W., Haase, D., & Kabisch, N. (2009). Birds and the city: Urban biodiversity, land use, and socioeconomics. *Ecology and Society, 14*(2)PAGEs.

Thaweepworadej, P., & Evans, K. L. (2022). Avian species richness and tropical urbanization gradients: Effects of woodland retention and human disturbance. *Ecological Applications, 32*(6), e2586.

The World Bank. (2022, October 6). *Urban development* https://www.worldbank.org/en/topic/urbandevelopment/ overview#:~:text=Today%2C%20some%2056%25%20of%20the

Thompson, R., Tamayo, M., & Sigurðsson, S. (2022). Urban bird diversity: Does abundance and richness vary unexpectedly with green space attributes? *Journal of Urban Ecology, 8*(1), juac017.

Lance Querubin A. Mabugat, Anton Van J C. Catalan, Lara Lois D. Te, Karl Josh L. Collarin, John Dave R. Masiado, Wyeth G. Dogelio, Phillip Raymund R. De Oca, Philip Godfrey C. Jakosalem, Lisa Marie J. Paguntalan

31

Tu, H. M., Fan, M. W., & Ko, J. C. J. (2020). Different habitat types affect bird richness and evenness. *Scientific reports, 10*(1), 1-10.

Uchiyama, Y., Hayashi, K., & Kohsaka, R. (2015). Typology of cities based on city biodiversity index: Exploring biodiversity potentials and possible collaborations among Japanese cities. *Sustainability, 7*(10), 14371-14384.

United Nations. (2018, *May 16). 68% of the world population projected to live in urban areas by 2050, says UN.* United Nations Department of Economic and Social Affairs. https://www.un.org/development/desa/en/news/population/2018-revision-of-world-urbanization-prospects.html

Vallejo Jr., B. M., Aloy, A. B., & Ong, P. S. (2009). The distribution, abundance and diversity of birds in Manila's last greenspaces. *Landscape and Urban Planning, 89*(3-4), 75-85.

Vasquez, A. V., & Wood, E. M. (2022). Urban parks are a refuge for birds in park-poor areas. *Frontiers in Ecology and Evolution, 10.*

Whelan, C. J., Wenny, D. G., & Marquis, R. J. (2008). Ecosystem services provided by birds. *Annals of the New York Academy of Sciences, 1134*(1), 25-60.

Yang, X., Tan, X., Chen, C., & Wang, Y. (2020). The influence of urban park characteristics on bird diversity in Nanjing, China. *Avian Research, 11*, 1-9.

Yuan, B. A. O. D. O. N. G., & Lu, C. (2016). Effects of urbanization on bird diversity: A case study in Yizhou, Guangxi Province, China. *Asia Life Sciences, 25*(1), 79-96.

# Digital Trust and Personality Types among Employees in the Workplace

Dave E. Marcial[1], Alfie Q. Arcelo[1], Jade O. Montemayor[1], Steven M. Binarao[1], Markus A. Launer[2]
*[1]Silliman University, Philippines*
*[2]Ostfalia University of Applied Sciences, Germany*

## Abstract

This study explores the relationship between personality traits and digital trust in the workplace. It emphasizes that trust is crucial to employees' willingness to embrace technology. Digital trust is defined as individuals depending on technology to complete tasks due to positive characteristics and expectations of the technology's behavior. The study focuses on the Big Five Personality traits: extraversion, agreeableness, conscientiousness, neuroticism, and openness, which are significantly related to digital trust. The research was conducted online in 36 countries, resulting in a dataset of 2,998 respondents. The findings revealed that respondents predominantly exhibited moderate levels of extraversion, openness, and neuroticism. However, agreeableness and conscientiousness traits were less prevalent among the respondents. The study also identified significant relationships between digital trust levels and the personality traits of extraversion, agreeableness, conscientiousness, neuroticism, and openness. Specifically, employees with higher extraversion showed higher digital trust levels, while those with higher agreeableness demonstrated the lowest digital trust. Additionally, the research highlighted that digital trust significantly varied across different ICT components when grouped according to employees' personality types. This indicates that trust in specific ICT components depends on individual personality traits. In conclusion, the study revealed that employees in the workplace generally exhibited moderate extraversion, neuroticism, and openness personality traits. The digital trust level among employees also shows a moderate overall level. The Big Five Personality traits significantly influenced digital trust, and employees' trust levels differed based on their personality types. Moreover, the research indicated significant differences in digital trust across various ICT components, depending on personality types. Considering the impact of personality traits on digital trust, organizations can design targeted interventions to promote a technology-embracing culture and enhance technology adoption. Recognizing the significance of extraversion, agreeableness, conscientiousness, neuroticism, and openness

in influencing digital trust, organizations may also consider personality assessment tools during recruitment and talent management processes.

**Keywords:** Digital Trust, Personality Traits, Workplace Dynamics, Trust-Building Strategies, Technology Adoption

## Introduction

In an era dominated by digital technology, trust has emerged as the linchpin upon which our relationship with technology hinges. As businesses and individuals increasingly rely on technology for myriad aspects of their daily lives, trust is the cornerstone upon which our willingness to embrace technology rests (Black & Dupont, 2023).

Trust becomes paramount in the workplace, where the fusion of human and digital realms is most pronounced. Nevertheless, the multifaceted nature of trust begs the question: What is trust in the digital age? Definitions abound, with dictionaries and experts offering their interpretations. Merriam-Webster.com defines trust as "reliance on the character, ability, strength, or truth of someone or something." Meanwhile, Cambridge.org speaks of trust as the belief that something is "safe and reliable," and Macmillandictionary.com characterizes it as the confidence that something is "safe, reliable, or effective." In technology, trust becomes an individual's willingness to depend on technology to achieve a specific task due to its positive attributes (McKnight et al., 2009). Gartner Inc. succinctly sums up trust as the expectation that digital interactions are secure and authentic (Gartner Inc., 2017, as cited in Marcial & Launer, 2019).

Digital trust is not a mere academic construct; it underpins every digital interaction, assuring organizations and employees that their digital footprint remains secure in an increasingly interconnected world (DigiCert, Inc., 2022). Information and Communication Technology's (ICT) transformative power in the workplace is undeniable, revolutionizing operations, expanding access, and fostering collaboration (Stevens, 2021). However, this transformative potential hinges on trust in technology, a trust that is increasingly elusive due to concerns about security, transparency, and ethics (Jain, 2021).

Within this intricate web of technology and trust, the human element—personalities—plays a pivotal role. The workplace is a complex ecosystem where digital trust is shaped by four dimensions: the digital environment, user experiences, attitudes, and behaviors. The digital environment consists of mechanisms and procedures that ensure online

safety and security. User experiences encompass the hurdles users face in their digital interactions, affecting their trust in technology. Attitudes encompass responsible data handling, faith in organizations, and privacy concerns. Behaviors reflect individuals' engagement with digital surroundings (Chakravorti et al., 2021).

Crucially, the interplay between digital trust on ICT components in terms of electronic devices, hardware, information systems, management, IT and data support, and ICT external entities and individual personalities, particularly the Big Five Personality, is the focus of this study. Personality traits have been shown to influence ICT trust significantly, with the Big Five Personality traits—extraversion, agreeableness, conscientiousness, neuroticism, and openness—standing out as pivotal factors ("Cherry, What," 2023). These traits capture the essence of individual personality differences, from sociability to emotional stability and curiosity.

The relationship between personality and digital trust is an escalating field of research, offering insights into how individuals perceive and interact with technology. While prior studies have begun to unveil the relationships between personality and ICT use, this paper provides a comprehensive analysis of the contemporary workplace context. It aims to shed light on the complex interplay between individual personality traits and digital trust, thereby contributing to a deeper understanding of the human-technology relationship in the modern workforce. This paper aims to gauge the impact of the Big Five personality traits on workplace digital trust. By probing into employees' personalities and correlating them with their digital trust levels, this paper seeks to uncover the intricate dynamics that shape trust in technology. Questions such as the following are explored: What is the personality profile of employees in the digital age? How does personality influence digital trust levels? Are there significant differences in digital trust among employees with varying personality types?

The findings of this paper yield impactful benefits to organizations, employees, and policymakers by enhancing workplace productivity by allowing employees to understand digital trust and personality types, thereby enabling them to tailor strategies that enhance collaboration and productivity in organizations (Marcial & Launer, 2019). The findings can also help improve employee satisfaction, as identifying the correlation between personality types and digital trust can guide organizations in creating a more satisfying work environment, positively impacting employee well-being (Mosley, 2016). Another valuable contribution of this paper's findings is informed decision-making for policymakers who can use these findings to shape policies that promote a conducive digital work environment, thereby

fostering trust and collaboration among employees (UNESCO, 2021). Theesults could also produce tailored training programs. Organizations can develop targeted training programs based on personality types to improve digital literacy and trust among employees, thereby ultimately benefiting both the individuals and the organization (Mosley, 2016).

## Review of Related Literature

In today's rapidly evolving digital landscape, organizations increasingly rely on technology to streamline processes, foster collaboration, and drive innovation (Davenport & Harris, 2007) (Dong & McIntyre, 2014).

The success of these technological endeavors often hinges on employees' willingness to embrace and trust the digital tools and platforms at their disposal (Al-Fraihat et al., 2020). This study delves into the intricate relationship between personality traits and digital trust among employees in the workplace, thereby shedding light on how individual personality differences can significantly impact the adoption and utilization of technology.

At the core of this investigation lies the concept of digital trust, which is a critical determinant of an individual's willingness to rely on technology to accomplish tasks and achieve goals (Mayer et al., 1995) (Gefen et al., 2003). Digital trust can be defined as the degree to which an individual depends on technology based on their positive perceptions and expectations of its behavior (McKnight et al., 2002). It reflects an individual's belief that technology will perform as expected, be secure, and enhance their work experiences (Lewicki et al., 1998).

Central to this research is exploring the Big Five Personality traits, which have been widely studied and recognized as fundamental dimensions of human personality (Costa & McCrae, 1992) (John & Srivastava, 1999). These traits, namely extraversion, agreeableness, conscientiousness, neuroticism, and openness, have been shown to profoundly impact various aspects of an individual's life, including their behavior and attitudes in the workplace (Barrick & Mount, 1991).

Extraversion, characterized by sociability, assertiveness, and a propensity to seek out social interactions (McCrae & Costa, 1987), has significantly shaped digital trust (Darioshi & Lahav, 2021). Individuals with higher levels of extraversion tend to exhibit greater digital trust, likely due to their predisposition toward openness to new experiences and ease of forming interpersonal connections (Dishaw & Strong, 1999) (Darioshi & Lahav, 2021). This inclination towards trust in technology may manifest in a

greater willingness to explore and use digital tools (Bolton, et al., 2013).

In contrast, agreeableness, characterized by empathy, cooperation, and a desire to maintain harmonious relationships (McCrae & Costa, 1987), has shown an inverse relationship with digital trust (Montague et al., 2016). Individuals with higher levels of agreeableness may exhibit lower levels of digital trust, possibly because their concern for interpersonal relationships may lead them to rely more on human interactions than technology (Dishaw & Strong, 1999).

Conscientiousness, marked by qualities such as organization, responsibility, and goal-oriented behavior (McCrae & Costa, 1987), also plays a role in digital trust (Montague et al., 2016). While the relationship is nuanced, individuals with higher conscientiousness may exhibit varying levels of digital trust, depending on how they perceive technology's role in aiding their productivity and efficiency (Bolton, et al., 2013) (Szajna, 1996).

Neuroticism, characterized by emotional instability and a tendency towards anxiety and stress, can also influence digital trust. Higher levels of neuroticism may lead to heightened concerns about the reliability and security of technology, potentially reducing digital trust levels (Darioshi & Lahav, 2021).

Openness to experience, marked by curiosity, creativity, and a preference for novelty (McCrae & Costa, 1987), can positively influence digital trust (Darioshi & Lahav, 2021). Individuals with higher levels of openness tend to be more adaptable and open to experimenting with new technologies, thereby resulting in greater digital trust (Szajna, 1996).

Numerous studies have been conducted on the relationship between personality, ICT use, and trust. Extraversion and openness personalities are positively associated with ICT use, with extraverted and open-minded individuals being more likely to use ICTs for socializing (social media) and networking (Lampropoulos et al., 2022). Conscientiousness is positively associated with ICT use, with individuals who score high on this trait being more likely to use ICTs for work-related tasks and to be more organized in their ICT use (Bano et al., 2019). Being identified as a risk factor for Internet and online addictions, neuroticism is negatively associated with ICT use. Individuals with neuroticism are more likely to experience stress and anxiety when using technology (Marciano et al., 2020). Relationships have been established between digital trust and personality types, as seen in several studies. In the study of Flavián et al. (2022) on virtual teams, the results demonstrated that extraversion positively affected how much people trust their leaders and that trust positively affected how much people care about the team. However, it was found that trust in more virtual contexts was negatively impacted by neuroticism. Between the Big Five

Personality types and AI systems trust, it was revealed that high rates of agreeableness, openness, and extraversion affected AI trust positively. In contrast, high rates of neuroticism were negatively associated with AI trust. It was not clear , however, how conscientiousness affected AI systems trust.

## Methods

The empirical foundation of this study relies on a comprehensive online survey conducted in 2019 in 36 countries, encompassing diverse respondents from Africa, Asia, Europe, North America, Oceania, and South America (Marcial & Launer, 2019). Data from Marcial and Launer's Survey on Digital Trust in the workplace was gathered from 5,621 randomly selected respondents. Responses with at least one incomplete data entry were removed; hence, for this paper, the total number of datasets included was 2,998. The Big Five Inventory-10 was also utilized as a research instrument (Rammstedt et al., 2014). A 4-point Likert scale or the forced Likert scale was used on the personality agreement level, with 1 equating to strongly disagree, 2 to disagree, 3 to agree, and 4 to strongly agree. For the Digital Trust Level, the following were the descriptors: 1 = not trusted at all; 2 = low; 3 = moderate; 4 = high. In the 4-point Likert Scale or the forced Likert scale, the user is forced to form an opinion such that there is no safe or 'neutral' option. Notably, the questionnaire has acceptable reliability and validity properties (Marcial & Launer, 2021). The following statistical tools were utilized in this paper: weighted mean to determine the respondents' personality type and digital trust level; chi-square test and multiple regression to determine significant relationships between digital trust and personality types; and 1-way and 2-factor analyses of variance (ANOVA) to determine significant differences on digital trust in between ICT components when grouped according to each personality type. There were 6 ICT components in the study, which are as follows: electronic devices, hardware, information systems, management, IT and data support, and external entities. These components and their specific items were limited based on the global framework of digital trust (Marcial & Launer, 2019).

## Results and Discussion

### Personality Types

Table 1 summarizes the personality of the respondents in the workplace. Among the big five personality traits used in this study,

extraversion had the highest mean, at 2.81. This implies that the respondents predominantly exuded extraversion, and they were outgoing or socially confident. Also, the respondents generally possessed openness (2.70) and, neuroticism (2.63), and all of them possessed a moderate level of extraversion, openness, and neuroticism, as can be gleaned by their level of agreement with the questions. On the other hand, the table shows that the respondents did not possess agreeableness and conscientiousness, as can be gleaned from their response means of 2.43 and 2.45, respectively, which were described as "disagree."

**Table 1**
*Summary of Personality of the Respondents*

| Personality Traits | Agreement Level | | | | Combined Mean | Description |
|---|---|---|---|---|---|---|
| | 1 Strongly Agree | 2 Disagree | 3 Agree | 4 Strongly Agree | | |
| Extraversion | 831 | 1061 | 2535 | 1571 | 2.81 | Agree |
| Agreeableness | 1303 | 1993 | 1538 | 1164 | 2.43 | Disagree |
| Conscientiousness | 1638 | 1350 | 1675 | 1335 | 2.45 | Disagree |
| Neuroticism | 945 | 1764 | 1890 | 1398 | 2.63 | Agree |
| Openness | 929 | 1477 | 2037 | 1555 | 2.70 | Agree |

Specifically, the respondents, on average, had a moderately high level of extraversion, with a mean score of 2.81. This suggests that they tended to be outgoing and socially confident, expressing themselves openly and easily engaging in social interactions. This positive score indicates that most of the respondents agreed with statements about extraversion in the workplace. It can also be noted that the respondents scored relatively low on agreeableness, with a mean of 2.43, which was under the "disagree" category. This indicates that the respondents did not exhibit high levels of agreeableness in the workplace. Agreeableness is characterized by being cooperative, compassionate, and empathetic towards others (Levesque, 2011). The results suggest that the respondents did not strongly agree with statements about agreeableness at work.

Similarly, the respondents scored low on conscientiousness, with a mean of 2.45, which was categorized as "disagree." Conscientiousness is associated with being organized, diligent, and responsible (Bogg & Roberts, 2013). The findings imply that the respondents may not strongly agree with

statements related to conscientiousness in the workplace, indicating a lower tendency to be organized and responsible. It is also interesting to note that the respondents scored moderately high on neuroticism, with a mean of 2.63, falling under the "agree" category. Neuroticism is "the tendency to experience negative emotions, such as anxiety and stress" (Hyde, 2001). The results suggest that the respondents had a moderate level of neuroticism in the workplace, indicating that they may experience negative emotions while working.

Furthermore, the respondents scored relatively high in openness, with a mean of 2.70, which was categorized as "agree." Openness is associated with being imaginative, curious, and open to new experiences (Ng et al., 2021). The findings suggest that the respondents tended to possess a moderate level of openness in the workplace, showing a willingness to explore new ideas and experiences.

Overall, the results imply that the work environment might have a lively and sociable atmosphere, thereby fostering open communication and team interaction. Likewise, the data indicate potential challenges in maintaining a cooperative and responsible work atmosphere. Organizations can only promote teamwork and cooperation if employees possess high levels of agreeableness and conscientiousness. The moderate level of neuroticism suggests that some employees may experience negative emotions, potentially leading to increased stress and reduced job satisfaction. Organizations should consider providing adequate support systems, such as employee assistance programs and stress management workshops, to help employees cope with work-related stress and maintain overall well-being (Baskar et al., 2021).

## Digital Trust Levels According to Personality Type

Table 2 summarizes the digital trust level among employees across personality types. Here, information systems that are implemented (regardless of one's usage) as well as management and other internal entities were regarded as the most trusted ICT components across respondent personality types, as indicated by the mean of 2.75, while electronic devices that were provided (either for official or personal use) were the least trusted among the respondents. All in all, the respondents moderately trusted ICT in the workplace, as indicated by the mean of 2.70.

**Table 2**

*Summary of Digital Trust Level among Employees According Across Personality Types*

| ICT Components | Personality Types | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Extraversion | | Agreeablenes | | Conscientiousness | | Neuroticism | | Openness | | TOTAL | |
| | x | D | x | D | x | D | x | D | x | D | x | D |
| Electronic devices that are provided with you (either for official or personal use) | 2.75 | Moderate | 2.53 | Moderate | 2.51 | Moderate | 2.62 | Moderate | 2.68 | Moderate | 2.62 | Moderate |
| Hardware and Software Systems installed (either for official or personal transactions) | 2.79 | Moderate | 2.57 | Moderate | 2.55 | Moderate | 2.66 | Moderate | 2.72 | Moderate | 2.66 | Moderate |
| Information systems that are implemented (regardless of your usage) | 2.88 | Moderate | 2.66 | Moderate | 2.64 | Moderate | 2.75 | Moderate | 2.81 | Moderate | 2.75 | Moderate |
| Management & and other internal entities | 2.88 | Moderate | 2.66 | Moderate | 2.65 | Moderate | 2.76 | Moderate | 2.82 | Moderate | 2.75 | Moderate |
| IT & Data Support | 2.87 | Moderate | 2.65 | Moderate | 2.63 | Moderate | 2.74 | Moderate | 2.80 | Moderate | 2.74 | Moderate |
| External Entities | 2.80 | Moderate | 2.58 | Moderate | 2.56 | Moderate | 2.67 | Moderate | 2.73 | Moderate | 2.67 | Moderate |
| | | | | | | | | | **Mean of Means** | | **2.70** | **Moderate** |

As shown in Table 2, the trust levels were generally consistent across all personality types, with the mean scores falling within the "Moderate" range for each component. The data indicates that employees in the workplace exhibited a moderate level of digital trust in various ICT components. The most trusted components are internal information systems and management entities. At the same time, electronic devices provided by the organization were perceived as less trusted. The trust levels appeared to be relatively consistent across different personality types.

The foregoing results imply that employees generally possessed a moderate level of trust in ICT components, regardless of their personality traits. However, the variations in trust levels for each specific ICT component based on personality types are noteworthy. Employees with different personality types displayed varying levels of trust in different ICT components. For instance, implementing information systems, regardless of usage, received the highest mean trust score across all personality types, at

2.75, indicating a relatively higher level of trust in these systems. On the other hand, electronic devices provided for official or personal use received the lowest mean trust score across all personality types, at 2.62, suggesting lower trust levels in the reliability and security of these devices.

These implications emphasize the importance of considering employees' personality traits when implementing and managing ICT components. Organizations should be mindful of individual preferences and concerns, tailoring communication and support to address specific trust-related needs. By recognizing the variations in trust levels for different ICT components based on personality types, organizations can design targeted interventions to enhance digital trust and user satisfaction.

Furthermore, the "Moderate" overall digital trust level indicates room for improvement in cultivating a more trusting work environment. A culture of open communication, transparent data practices, and robust cybersecurity measures can increase the organization's digital trust levels. Regularly monitoring trust levels and gathering feedback from employees can provide valuable insights into the effectiveness of implemented strategies and facilitate continuous improvement.

Table 3 presents the Digital Trust Level according to the Personality of Employees. It can be gleaned that respondents manifesting the extraversion personality had the highest trust level on ICT, with a mean of 2.83. Meanwhile, respondents possessing the agreeableness personality type had the least trust in ICT at 2.61. However, such mean still indicates a moderate level of trust. Similarly, the mean of means of ICT trust according to personality types was 2.70, which was described as a moderate level of trust among respondents.

**Table 3**
*Digital Trust Level According to the Personality of Employees*

| Personality | ICT Components | | | | | | | | | | | | |
| | Electronic Devices | | Hardware | | Information System | | Management | | IT and Data Support | | External Entities | | TOTAL | |
| | x | D | x | D | x | D | x | D | x | D | x | D | x | D |
| Extraversion | 2.75 | Moderate | 2.79 | Moderate | 2.88 | Moderate | 2.88 | Moderate | 2.87 | Moderate | 2.80 | Moderate | 2.83 | Moderate |
| Agreeableness | 2.53 | Moderate | 2.57 | Moderate | 2.66 | Moderate | 2.66 | Moderate | 2.65 | Moderate | 2.58 | Moderate | 2.61 | Moderate |
| Conscientiousness | 2.51 | Moderate | 2.55 | Moderate | 2.64 | Moderate | 2.65 | Moderate | 2.63 | Moderate | 2.56 | Moderate | 2.59 | Moderate |
| Neuroticism | 2.62 | Moderate | 2.66 | Moderate | 2.75 | Moderate | 2.76 | Moderate | 2.74 | Moderate | 2.67 | Moderate | 2.70 | Moderate |
| Openness | 2.68 | Moderate | 2.72 | Moderate | 2.81 | Moderate | 2.82 | Moderate | 2.80 | Moderate | 2.73 | Moderate | 2.76 | Moderate |
| | | | | | | | | | | | **Mean of Means** | | **2.70** | **Moderate** |

As shown in Table 3, the mean scores for digital trust across all personality types fall within the "Moderate" category, ranging from 2.51

to 2.88. This suggests that, on average, employees exhibited a moderate level of trust in the various ICT components assessed, regardless of their personality traits. Across all personality types, there was a relatively consistent level of trust in the different ICT components, as indicated by the similar mean scores. This implies that the perception of digital trust was relatively uniform among employees, irrespective of their personality traits. The highest levels of digital trust were observed in "Information Systems" and "Management." Regardless of their personality types, employees tend to have more confidence in these internal components. The lowest level of digital trust was observed in "Electronic Devices." However, the mean scores still fall within the "Moderate" range. This suggests that employees may trust the electronic devices provided for official or personal use. The data reveal that employees, regardless of their personality types, exhibited moderate trust in the various ICT components at their workplace. While there were slight variations in trust levels for specific components, overall, employees generally had a similar perception of digital trust. The higher trust in "Information Systems" and "Management" indicates the importance of maintaining and enhancing trust in internal entities.

It is observed that employees with different personality traits exhibited slight variations in their trust levels across the ICT components. For instance, individuals with higher extrovertion tended to have moderately higher trust in all ICT components than respondents with other personality traits did. On the other hand, employees with higher agreeableness, conscientiousness, neuroticism, and openness generally displayed similar trust levels, with their mean trust scores ranging from 2.61 to 2.70. Furthermore, specific ICT components elicited varying trust levels among employees. Information systems that were implemented, regardless of usage, received the highest trust scores, indicating a relatively higher confidence of the respondents in their reliability and security. Conversely, electronic devices for official or personal use received slightly lower trust scores than other ICT components.

The implications of this data underscore the importance of considering both personality traits and ICT component types when addressing digital trust issues within an organization. Tailoring communication, training, and support initiatives to cater to individual trust tendencies can enhance employees' confidence in using technology. Acknowledging the variations in trust levels for specific ICT components can inform targeted interventions that address concerns and improve trust. Organizations can focus on strengthening the security and usability of electronic devices, thereby increasing trust in these critical tools.

## Relationship between Digital Trust and Personality

Table 4 summarizes the analysis results to show the existence of any significant relationship between the respondents' digital trust levels and extraversion level, agreeableness level, conscientiousness level, neuroticism level, and openness level. When correlated one at a time, each personality type was significantly related to the level of digital trust in the workplace. The chi-square result shows that extraversion, agreeableness, conscientiousness, neuroticism, and openness affected digital trust in the workplace.

**Table 4**

*Summary of Relationships between Digital Trust Level and Personality*

| Digital Trust Level and | $x^2$ | *p*-value | *df* | Remarks |
|---|---|---|---|---|
| Extraversion | 123.33 | 0.00 | 9 | Significant |
| Agreeableness | 383.85 | 0.00 | 9 | Significant |
| Conscientiousness | 385.49 | 0.00 | 9 | Significant |
| Neuroticism | 261.45 | 0.00 | 9 | Significant |
| Openness | 250.70 | 0.00 | 9 | Significant |

Table 4 suggests meaningful connections between an employee's personality traits (i.e., Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness) and their level of digital trust in the workplace. The statistically significant relationships indicate that personality traits shape how individuals perceive and place trust in information and communication technology (ICT) components at work.

The findings suggest that employees' personality traits are crucial in influencing their level of digital trust. Extraverted individuals, who are typically outgoing and socially confident, tend to exhibit more digital trust. Similarly, employees who score higher on agreeableness, displaying qualities of cooperation and empathy, tend to place more trust in digital systems. Conscientious individuals, known for being organized and responsible, also show higher digital trust levels. Neuroticism, which entails experiencing negative emotions more frequently, is associated with higher digital trust. This could imply that individuals with neurotic tendencies may be more cautious and vigilant in their digital interactions, leading to heightened trust levels. Similarly, openness, characterized by a willingness to embrace novel ideas and experiences, is also significantly linked to higher digital

trust (Weston & Jackson, 2018). This suggests that individuals with an open mindset may be more receptive to adopting and trusting new technologies and digital platforms.

These implications, which highlight the significance of understanding employees' personality traits in shaping their attitudes toward technology, are essential to organizations as they. Knowing the diverse range of personalities within the workforce can help tailor trust-building strategies and technology implementations. Moreover, fostering an environment that encourages open communication, support, and empathy can enhance digital trust among employees. Furthermore, the observed relationships between digital trust and personality traits can aid recruitment and talent management processes. By considering personality traits during hiring, organizations can identify candidates more likely to embrace and trust digital technologies, improving job-person fit and long-term satisfaction.

Using multiple regression, Table 5 analyses the relationship between ICT trust level and the five personality types. When correlated all at once, neuroticism yielded a p-value of 0.43, which is insignificant. At the same time, extraversion, agreeableness, conscientiousness, and openness personalities are significantly related when taken as one to the level of trust in ICT. The results of the multiple regression analysis indicate that Extraversion, Agreeableness, and Openness are significant predictors of digital trust level in the workplace. Specifically, individuals with higher levels of extraversion, agreeableness, and openness are more likely to have higher digital trust levels. Conscientiousness is not a significant predictor, and neuroticism is not significantly associated with digital trust.

**Table 5**

*Test of Relationship between Digital Trust Level and Personality Type Using Multiple Regression*

| Digital Trust Level and | Coefficients | Standard Error | *p*-value | Remarks |
|---|---|---|---|---|
| Extraversion | 1.73 | 0.026954939 | 0.00 | Significant |
| Agreeableness | 0.22 | 0.022516921 | 0.00 | Significant |
| Conscientiousness | -0.14 | 0.028980533 | 0.00 | Significant |
| Neuroticism | 0.02 | 0.027395752 | 0.43 | Not Significant |
| Openness | 0.08 | 0.02469623 | 0.00 | Significant |

As shown in Table 5, the coefficient of 1.73 for extraversion suggests

a positive and significant relationship between Extraversion and digital trust level. This indicates that individuals with higher levels of extraversion tend to have higher digital trust levels in the workplace. The coefficient of 0.22 for Agreeableness indicates a positive and significant relationship between agreeableness and digital trust level. Individuals with higher levels of agreeableness also tend to have higher levels of digital trust. The coefficient of -0.14 for conscientiousness suggests a negative and significant relationship between conscientiousness and digital trust level. This implies that individuals with higher levels of conscientiousness may have lower digital trust levels in the workplace. The coefficient of 0.02 for neuroticism indicates a non-significant relationship between neuroticism and digital trust level (p-value = 0.43). Therefore, neuroticism does not appear to be a significant predictor of digital trust in this analysis. The coefficient of 0.08 for openness suggests a positive and significant relationship between openness and digital trust level. Individuals with higher levels of openness are likely to have higher digital trust levels.

## Differences Between Trust on ICT Components When Grouped According to Personality Types

Table 6 delineates the result of the summary of 1-way ANOVA analysis to show whether or not the respondents' level of ICT trust in each level of personality type significantly differs. The table shows that all components significantly differ as indicated by the their p-value, which is lesser than the margin of error at 0.05. This shows that the digital trust among extroverted personality types varies at each level. This is similar to the other personality types where digital trust significantly differs across levels.

**Table 6**
*Summary of Differences between Digital Trust and Personality Types*

| Personality Types | $F$ | $p$-value | Remarks |
|---|---|---|---|
| Extraversion | 56.89 | 0.00 | Significant |
| Agreeableness | 616.09 | 0.00 | Significant |
| Conscientiousness | 638.76 | 0.00 | Significant |
| Neuroticism | 272.52 | 0.00 | Significant |
| Openness | 148.39 | 0.00 | Significant |

The interpretation of Table 6 suggests that digital trust levels vary significantly depending on an individual's personality type. The statistical

significance of the differences indicates that personality traits play a significant role in shaping employees' perception and trust in information and communication technology (ICT) components in the workplace.

Table 7 summarizes the 2-factor ANOVA analysis to show whether or not the respondents' level of digital trust significantly varies between ICT components when grouped according to each personality type. As can be seen from the table, digital trust among respondents with extroverted personalities varies across ICT Components. The 2-factor ANOVA value of all personality types shows that all components significantly differ. This means that the level of digital trust across ICT components varies in intensity in every ICT component, according to the level of extraversion personality.

Similarly, the level of agreeableness, the level of conscientiousness, the level of neuroticism, and the level of openness differ across ICT components. The significant differences in digital trust among ICT components based on personality types highlight the importance of considering individual differences when designing and implementing ICT systems in the workplace. Tailoring the design and communication of ICT components to suit employees' personality traits can enhance their perception of trust and increase the effectiveness of the digital tools and systems within the organization. Such level of significance also underscores the importance of user-centered design and usability testing in catering to diverse user needs and preferences.

As shown in Table 7, the significant differences indicate that individuals with different levels of extraversion tend to have varying levels of trust in different ICT components. Specific ICT components may be more trusted by extroverted individuals compared to others. As regards agreeableness, significant differences in digital trust among ICT components suggest that individuals with different levels of agreeableness may trust specific ICT components more than others. As regards conscientiousness, significant differences in digital trust levels among ICT components imply that individuals with different levels of conscientiousness may have varying degrees of trust in different aspects of information and communication technology. The significant differences indicate that individuals with varying levels of neuroticism may have different levels of trust in various ICT components. Regarding openness, significant differences in digital trust among ICT components suggest that individuals with different levels of openness may trust certain aspects of information technology more than others.

**Table 7**

*Summary of Differences in Digital Trust between ICT Components When Grouped according to Each Personality Type*

| Personality Types | $F$ | $p$-value | Remarks |
|---|---|---|---|
| Extraversion | 42.90 | 0.00 | Significant |
| Agreeableness | 69.57 | 0.00 | Significant |
| Conscientiousness | 22.06 | 0.00 | Significant |
| Neuroticism | 17.53 | 0.00 | Significant |
| Openness | 37.30 | 0.00 | Significant |

The data presented in the tables offer valuable insights into the relationship between personality traits, digital trust, and workplace dynamics. Among the big five personality traits, extraversion is a significant predictor of digital trust, thus indicating that employees with higher extraversion tend to exhibit higher digital trust levels. The respondents also displayed moderate levels of openness and neuroticism, thereby suggesting a balanced mix of outgoing and socially confident behaviors alongside some degree of negative emotions. However, the data show that agreeableness and conscientiousness were lower, implying potential challenges in maintaining a cooperative and responsible work atmosphere.

The study further highlights the significance of personality traits in shaping employees' trust levels in Information and Communication Technology (ICT) components. Notably, employees with higher levels of extraversion, agreeableness, and openness tended to have higher digital trust. On the other hand, conscientiousness did not significantly impact digital trust. Understanding these differences is crucial for tailoring trust-building strategies and technology implementations to cater to the preferences and concerns of individuals with diverse personality traits.

Moreover, the data suggest that organizations can benefit from considering personality traits during recruitment to ensure better job-person fit and foster higher employee satisfaction (Alhendi, July 2019). The results imply that organizations must emphasize employee demographic profiles while designing personalized training and development programs to address specific trust-related needs and enhance employees' professional growth.

Furthermore, acknowledging the impact of personality traits on digital trust can lead to improved team dynamics and collaboration (Murmu & Neelam, 2022). Organizations can create a more inclusive work environment by promoting diversity and valuing individual strengths

associated with different personality types.

The findings also emphasize the importance of continuously monitoring digital trust levels and adaptability in ICT strategies to meet evolving employee expectations. By staying agile and responsive, organizations can maintain a positive work culture that supports employees' needs and well-being (Junker, Bakker, Gorgievski, & Derks, June 21, 2021).

Ultimately, the data reinforces the need for user-centered design principles in ICT development, as technology solutions tailored to employees' personality profiles result in better user experiences and increased digital trust (Gulliksen, et al., 2003). Embracing these implications can lead to a workplace that fosters trust, collaboration, and innovation, thereby promoting organizational success and resilience in an ever-evolving digital landscape.

## Conclusion

In conclusion, understanding the interplay between personality traits and digital trust is essential for creating a cohesive and resilient workforce equipped to embrace technology and drive organizational growth in a dynamic and competitive environment. The findings underscore the importance of fostering a user-centered approach, appreciating diversity, and continually adapting to employees' needs to build a thriving, digitally-enabled organization.

The findings from the data analysis provide valuable insights into the relationship between personality traits, digital trust, and workplace dynamics. Among the big five personality traits, extraversion, openness, and neuroticism emerge as significant predictors of digital trust levels in the workplace. These personality traits influence employees' perceptions of Information and Communication Technology (ICT) components, thereby affecting their trust levels in various aspects of technology.

Moreover, employees with higher levels of extraversion, agreeableness, and openness tend to have higher digital trust. At the same time, conscientiousness does not significantly influence digital trust. Understanding these personality-based differences in digital trust has important implications for organizations seeking to optimize their work environment and technology adoption.

In sum, personalizing trust-building strategies and ICT implementations based on employees' personality traits can foster a more supportive and trusted digital work environment. Targeted training, communication, and cybersecurity measures can address the varying

concerns and preferences related to technology usage.

## Recommendations

Based on the conclusions drawn from the data, several recommendations are proposed to optimize the work environment and technology adoption in organizations. First, organizations should consider incorporating personality-aware training and development programs (Zheng & Subramaniyan, 2019). Tailoring workshops, seminars, and coaching sessions to address specific trust-related concerns and communication preferences can foster a more engaged and confident workforce. A user-centered design approach is essential in developing and implementing information and Communication Technology (ICT) components (Tellioğlu, 2021). Moreover, conducting usability testing and gathering user feedback can ensure that technology solutions resonate with employees, thereby leading to better user experiences and increased digital trust (Boyd et al., 2022).

Furthermore, customized trust-building strategies based on personality traits should be developed (Fuoli & Hart, 2018). Implementing communication campaigns and initiatives that address the distinct trust tendencies of different employee groups can promote transparency and credibility in digital practices. Emphasizing diversity and inclusion initiatives in the workplace can also create a culture that values and celebrates individual differences, thereby fostering a supportive environment where employees of all personality types feel valued and respected.

It is also important to note that monitoring digital trust levels and gathering feedback will help identify emerging concerns and evolving needs (Rahman, 2021). Being agile and adaptable in implementing digital strategies and support systems adjustments is crucial to meet changing employee expectations. Additionally, promoting team-building activities that encourage understanding and appreciation of diverse personality traits can improve team dynamics, collaboration, and conflict resolution.

Strengthening data security and cybersecurity measures is essential to address employees' trust concerns (Masiga, 2021). Communicating data protection protocols and demonstrating the organization's commitment to safeguarding sensitive information can build employees' trust in the digital environment. Integrating personality trait assessments into the recruitment and talent management process can optimize job-person fit, thereby enhancing employee satisfaction and performance.

Finally, conducting longitudinal studies to observe changes in

personality traits and digital trust over time can provide valuable insights into long-term trends and inform organizational strategies (Oltmanns, Jackson, & Oltmanns, 2020). Recognizing and rewarding employees who actively embrace technology and contribute to building a trust-oriented work environment can reinforce positive digital behaviors and encourage others to follow suit.

It is hoped that organizations can create a workplace culture that celebrates diversity, embraces digital technology, and fosters trust and collaboration among employees. Building on individual strengths and trust tendencies can lead to a more engaged, innovative, and resilient workforce, thereby propelling the organization toward sustained success in the digital era.

## Acknowledgements

## References

Al-Fraihat, D., Joy, M., Masa'deh, R., & Sinclair, J. (2020). Evaluating E-learning systems success: An empirical study. *Computers in Human Behavior, 67-86.* https://doi.org/10.1016/j.chb.2019.08.004

Alhendi, O. (July 2019). Personality traits and their validity in predicting job performance at recruitment: A review. *International Journal of Engineering and Management Sciences, 222-231*. DOI:10.21791/IJEMS.2019.3.21

Bano, S., Shah, U., & Ali, D. (2019). Personality and technology: Big five personality traits as descriptors of universal acceptance and usage of technology UTAUT. *Library Philosophy and Practice (e-journal).* https://digitalcommons.unl.edu/libphilprac/2773

Barrick, M. R., & Mount, M. K. (1991). The Big Five personality dimensions and job performance: A meta-analysis. *Personnel Psychology, 1–26.* https://doi.org/10.1111/j.1744-6570.1991.tb00688.x

Baskar, K., Shinde, E. B., & Srinivasan, D. A. (February 26, 2021). Promoting mental well-being through employee assistance programmes. *NHRD Network Journal.* https://doi.org/10.1177/2631454120979764

Black, R., & Dupont, E. (2023, March 4). *Security strategy.* Dynamics 365 | Microsoft Learn. Retrieved from https://learn.microsoft.com/en-us/dynamics365/guidance/implementation-guide/security

Bogg, T., & Roberts, B. W. (2013). The case for conscientiousness: Evidence and implications for a personality trait marker of health and longevity. *Annals of Behavioral Medicine,* 278–288; https://doi.org/10.1007/s12160-012-9454-6

Bolton, R., Parasuraman, A., Hoefnagels, A., Migchels, N., Kabadayi, S., Gruber, T., Loureiro, Y. K., Solnet, D. (2013). Understanding Gen Y and their use of social media: A review and research agenda. *Journal of Service Management, 10.*1108/09564231311326987

Boyd, K., Potts, C., Bond, R., Mulvenna, M., Broderick, T., Burns, C., Bickerdike, A., McTear, M., Kostenius, C., Vakaloudis, A., Dhanapala, I. S. A., Ennis, E., Booth, F. (2022 October). Usability testing and trust analysis of a mental health and wellbeing chatbot. ECCE '22: *Proceedings of the 33rd European Conference on Cognitive Ergonomics*, 1-8. https://doi.org/10.1145/3552327.3552348

Chakravorti, B., Bhalla, A., & Chaturvedi, R. (2021, February 25). How digital trust varies around the world. *Harvard Business Review.* https://hbr.org/2021/02/how-digital-trust-varies-around-the-world

Cherry, K. (2022, February 14). *What is a personality test?* Verywell Mind. Retrieved from https://www.verywellmind.com/what-is-personality-testing-2795420

Cherry, K. (2023, March 11). *What are the big 5 personality traits? Openness, conscientiousness, extraversion, agreeableness, and neuroticism.* Verywell Mind. Retrieved from https://www.verywellmind.com/the-big-five-personality-dimensions-2795422

Costa, P. J., & McCrae, R. R. (1992). Neo PI-R professional manual. *Psychological Assessment Resources.* https://www.researchgate.net/publication/240133762_Neo_PI-R_professional_manual

Darioshi, R., & Lahav, E. (2021). The impact of technology on the human decision-making process. *Human Behavior and Emerging Technologies,* 391–400. https://doi.org/10.1002/hbe2.257

Davenport, T. H., & Harris, J. G. (2007). *Competing on analytics: The new science of winning.* Harvard Business School Press.

DigiCert, Inc. (2022, November 17). *DigiCert survey highlights importance of digital trust in business outcomes, customer loyalty.* CISION PR Newswire. Retrieved from https://www.prnewswire.com/news-releases/digicert-survey-highlights-importance-of-digital-trust-in-business-outcomes-customer-loyalty-301680608.html#:~:text=If%20companies%20do%20not%20manage,their%20digital%20footprint%20is%20secure

Dishaw, M. T., & Strong, D. M. (1999). Extending the technology acceptance model with task–technology fit constructs. *Information and Management,* 9-21.https://doi.org/10.1016/S0378-7206(98)00101-3

Dong, X., & McIntyre, S. H. (2014, August 11). The second machine age: Work, Progress, and prosperity in a time of brilliant technologies. *Quantitative Finance,* 1895-1896. doi:10.1080/14697688.2014.946440

Flavián, C., Guinalíu, M., & Jordán, P. (2022). Virtual teams are here to stay: How personality traits, virtuality and leader gender impact trust in the leader and team commitment. *European Research on Management and Business Economics (ERMBE).*https://doi.org/10.1016/j.iedeen.2021.100193

Fuoli, M., & Hart, C. (2018). Trust-building strategies in corporate discourse: An experimental study. *Discourse and Society.* https://doi.org/10.1177/0957926518770264

Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in online shopping: An integrated model. *MIS Quarterly,* 51-90. https://doi.org/10.2307/30036519

Gulliksen, J., Göransson, B., Boivie, I., Blomkvist, S., Persson, J., & Cajander, Å. (2003). Key principles for user-centred systems design. *Behaviour and Information Technology,* 397-409. DOI: 10.1080/01449290310001624329

Hyde, J. (2001). Gender Differences in personality and social behavior. *International Encyclopedia of the Social & Behavioral Sciences,* 5989-5994. https://doi.org/10.1016/B0-08-043076-7/01784-8

Jain, S. (2021, April 12). *What is digital trust and why it's important.* Engati. https://www.engati.com/blog/what-is-digital-trust-and-why-its-important

John, O. P., & Srivastava, S. (1999). The big five trait taxonomy: History, measurement, and theoretical perspectives. In L. A. Pervin, & O. P. John, *Handbook of personality: Theory and research* (pp. 102–138). https://darkwing.uoregon.edu/~sanjay/pubs/bigfive.pdf)

Junker, T. L., Bakker, A. B., Gorgievski, M. J., & Derks, D. ( June 21, 2021). Agile work practices and employee proactivity: A multilevel study. *Human Relations.*https://doi.org/10.1177/00187267211030101

Lampropoulos, G., Anastasiadis, T., Siakas, K., & Siakas, E. (2022). The impact of personality traits on social media use and engagement: An overview. *International Journal on Social and Education Sciences (IJonSES)*, 34-51. https://doi.org/10.46328/ijonses.264

Levesque, R. J. (2011). Agreeableness. In R. Levesque, *Encyclopedia of Adolescence*. https://doi.org/10.1007/978-1-4419-1695-2_509). New York: Springer. Retrieved from Springer Link

Lewicki, R. J., McAllister, D. J., & Bies, R. J. (1998). Trust and distrust: New relationships and realities. *Academy of Management Review,* 438-458. https://api.semanticscholar.org/CorpusID:15567526

Mayer, R. C., Davis, J. H., & Schoorman, F. (1995). An integrative model of organizational trust. *The Academy of Management Review,* 709-734. https://doi.org/10.2307/258792

Marcial, D. E., & Launer, M. A. (2019). Towards the measure of digital trust in the workplace: A Proposed framework. *International Journal of Scientific Engineering and Science, 1-7.* DOI:10.5281/zenodo.3595295

Marcial, D. E., & Launer, M. A. (2021). Test-retest reliability and internal consistency of the survey questionnaire on digital trust in the workplace. *Solid State Technology 64* (2), 4369-4381. Retrieved from https://solidstatetechnology.us/index.php/JSST/article/view/10225?fbclid=IwAR2L5ztiRa-RtDQER7vuXS8v6A46_nGu59gUYSef5hXyW24uh16nNgBL5iw

Marciano, L., Camerini, A.-L., & Schulz, P. J. (2020). Neuroticism in the digital age: A meta-analysis. *Computers in Human Behavior Reports.* https://doi.org/10.1016/j.chbr.2020.100026

Masiga, J. (2021, November 23). *Why we must rebuild digital trust for a cyber-inclusive future.* https://www.weforum.org/agenda/2021/11/rebuilding-digital-trust-for-a-cyber-inclusive-future/

McCrae, R. R., & Costa, P. T. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology, 81–90.* https://doi.org/10.1037/0022-3514.52.1.81

McKnight, H., Carter, M., & Clay, P. (2009). Trust in technology: Development of a set of constructs and measures. *DIGIT 2009 Proceedings.* https://aisel.aisnet.org/cgi/viewcontent.cgi?article=1009&context=digit2009

McKnight, D., Choudhury, V., & Kacmar, C. (2002). Developing and validating trust measures for e-commerce: An integrative typology. *Information Systems Research,* 334–359. https://doi.org/10.1287/isre.13.3.334.81

Montague, P., King-Casas, B., & Cohen, J. D. (2016). Imaging valuation models in human choice. *Annual Review of Neuroscience.*

Mosley, L. (2016, March 18). *The importance of understanding personality type in the workplace*. LinkedIn. Retrieved from https://www.linkedin.com/pulse/importance-understanding-personality-type-workplace-lauren-copeland

Murmu, S., & Neelam, N. (23 September 2022). Impact of emotional intelligence and personality traits on managing team performance in virtual interface. *Asian Journal of Business Ethics, 33–53*. https://doi.org/10.1007/s13520-022-00154-1

Ng, D., Lin, P., Marsh, N., Chan, K., & Ramsay, J. (2021, September 28). Associations between openness facets, prejudice, and tolerance: A scoping review with meta-Analysis. *Frontiers in Psychology.* https://doi.org/10.3389/fpsyg.2021.707652

Oltmanns, J. R., Jackson, J. J., & Oltmanns, T. F. (2020). Personality change: Longitudinal self–other agreement and convergence with retrospective-reports. *Journal of Personality and Social Psychology,* 1065–1079. https://doi.org/10.1037/pspp0000238

Rahman, M. (2021, February 9). *Essential cybersecurity components: Continuous monitoring, human intelligence and commitment.* Retrieved from isacaga.org. https://www.isaca.org/resources/news-and-trends/isaca-now-blog/2021/essential-cybersecurity-components-continuous-monitoring-human-intelligence-and-commitment

Rammstedt, B., Kemper, C., Klein, M., Beierlein, C., & Kovaleva, A. (2014). *Big five inventory (BFI-10).* ZIS Open Access Repository for Measurement Instruments. Retrieved from https://doi.org/10.6102/zis76

Riedl, R. (2022, November 23). Is trust in artificial intelligence systems related to user personality? Review of empirical evidence and future research directions. *Electronic Markets,* 2021–2051. https://doi.org/10.1007/s12525-022-00594-4

Sarason, I. G. (2019, October 1). Personality assessment. *Encyclopedia Britannica.* Retrieved from https://www.britannica.com/science/personality-assessment

Stevens, A. (2021, July 16). *15 advantages and disadvantages of remote work.* TechTarget. Retrieved from https://www.techtarget.com/whatis/feature/15-advantages-and-disadvantages-of-remote-work

Szajna, B. (1996). Empirical evaluation of the revised technology acceptance model. *Management Science,* 85-92. http://www.jstor.org/stable/2633017

Tellioğlu, H. (2021). User-centered design. In Z. F. Xiang, *Handbook of e-tourism.* https://doi.org/10.1007/978-3-030-05324-6_122-1). Cham: Springer.

UNESCO. (2021). *AI and education: guidance for policy-makers.* Paris, France: UNESCO. https://doi.org/10.54675/PCSP7350.

Weston, S. J., & Jackson, J. J. (2018). The role of vigilance in the relationship between neuroticism and health: A registered report. *Journal of Research in Personality,* 27-34. https://doi.org/10.1016/j.jrp.2017.10.005

Zheng, Y., & Subramaniyan, A. (15 March 2019). Personality-aware collaborative learning: Models and explanations. *Advances in Intelligent Systems and Computing.* https://doi.org/10.1007/978-3-030-15032-7_53doi:https://doi.org/10.1146/annurev.neuro.29.051605.112903

# A Review of Suicide Prevention Bills in Philippine Legislation and their Comparison with R.A. 11036: The Mental Health Act

Mark Anthony M. Quintos
*Senior Lecturer, University of the Philippines Diliman*
*Assistant Professorial Lecturer, De La Salle University Manila*
*Associate Professorial Lecturer, Polytechnic University of the Philippines*
*Professorial Lecturer, Don Honorio Ventura State University*

## Abstract

The passage of R.A. 11036 (Mental Health Act) has been hailed as a victory for mental health advocates. While the law itself is a step in the right direction, it cannot be considered as a law that wholly confronts the problem of suicide. Rather, bills focusing on suicide prevention remain pending in Congress with no certainty as to their eventual fates. This study reviews the bills filed before the 13th up to the 19th Congress of the Philippines (2004 to 2024) and identifies the different steps they propose for suicide prevention. These proposed steps are compared with the provisions of R.A. 11036 to determine whether the existing law is sufficient to deal with the suicide problem or whether there is a need for further legislation specific to suicide prevention. Results showed that there were 32 suicide bills proposed in a span of 20 years. These bills can be divided into 7 themes and they stipulated 19 different steps for suicide prevention – out of which only 12 were partially covered by the Mental Health Act.

**Keywords:** Suicide; Philippines; Suicide Legislation; Suicide Prevention; Mental Health

## Introduction

Suicide is a growing social problem in the Philippines. Before the COVID-19 pandemic, studies had already noted an increasing trend in the rates of suicide attempts and suicide-related deaths in the country (Quintos, 2019a; Redaniel et al., 2011). The phenomenon became an even more pressing concern since the pandemic and its social consequences began. In 2019, the Philippine Statistics Authority reported suicide to be the 31st leading cause of mortality – accounting for 2810 deaths. By the first

58

A Review of Suicide Prevention Bills in Philippine Legislation and
their Comparison with R.A. 11036: The Mental Health Act

year of the pandemic, suicide became the 25th leading cause of mortality
with a death toll of 4,420. This increase in suicide rates is not an isolated
case. Other countries have also experienced similar spikes in suicide
cases. Japan, for example, recorded more suicide deaths in October 2020
than the total COVID-19 deaths since the pandemic began up to that
month (Wang et al., 2020). The upward trends related to suicide and other
mental health problems presumably brought on by the pandemic are now
even being considered as the next global pandemic (Ornell et al., 2021).

How can the Philippines respond to this threat? A common premise
in the Sociological tradition of understanding social problems is that the
social structure, when under threat due to a social problem, will come up
with a response that is designed to resolve this societal threat. In Parsonian
Sociology's AGIL Framework, the task of deciding how best to respond to
the threat is done by the political social institution. This is done through
the process of goal attainment – wherewith the government comes up with
the political goal (policies or laws) that the rest of society must observe to
respond to the social problem (Ritzer, 2008). It is important to understand
that these social institutions and the people who represent them, though
gifted with the presumption that they are functioning with regularity, are
not infallible. As Blumer (1971) pointed out, in his discussion of how society
deals with social problems, the process of coming up with a solution to a social
problem does not necessarily result in an objective resolution of the social
problem. The outcome of the proposed solution to the social problem can
range from being very effective in resolving the problem to being ineffective.

One of the recent exercises of social legislation is the enactment
in 2019 of R.A. No. 11036: Mental Health Act. This law affirms the basic
rights of all Filipinos to mental health as well as the fundamental rights
of people who require mental health services. Bills specifically made for
suicide prevention, on the other hand, remain pending in Congress with
no certainty as to their eventual fates. The passage of the Mental Health Act
is a victory for mental health advocates and is a step in the right direction
in recognizing the equal relevance of mental health with physical health for
the maintenance and enjoyment of the life of persons. It remains to be seen,
however, whether this law will provide sufficient contingencies in suicide
prevention. This uncertainty about the capability of the Mental Health Act
to deal with the growing suicide problem is the raison d'etre of this study.

This study reviewed the bills filed before the 13th up to
the 19th Congress of the Philippines (2004 to 2024) to answer the
following research questions: (1) what are the steps that these bills
provide for suicide prevention? and (2) how are these bills similar and

different from the Mental Health Law? Finding the answers to these two questions will allow for a better evaluation of the necessity, or lack thereof, of a law specifically crafted for suicide prevention.

## Methodology

This research follows an archival research design. To obtain the necessary data to answer its research questions, the researcher made use of the records of bills submitted before the two houses of Congress in the Philippines. The full texts of House bills from the 13th Congress up to the 19th Congress (covering all legislations from 2004 to 2024) are available on the respective websites of the House of Representatives (http://www.congress.gov.ph) and the Senate (https://www.senate.gov.ph). These digital libraries were systematically explored and the full texts of all bills related to suicide were obtained. These bills were analyzed and the specific steps related to suicide prevention proposed by the bills were extracted. These were then compared with the provisions of R.A. No. 11036 to identify which steps were already covered by the provisions of the existing law and which were not.

## Results and Discussion

The results can be divided into two parts – each answering a research question. The first part discusses the suicide bills and how they are similar and different from each other. The second part discusses the suicide bills in comparison with R.A. 11036: The Mental Health Act.

## The Suicide Bills Analyzed

The bills related to suicide from the 13th to the 19th Philippine Congress and the names of their respective principal authors are shown in Table 1.

**Table 1**

*Bills Related to Suicide Submitted to the Philippine Congress (2004-2024)*

| | 13th Congress (2004-07) | 14th Congress (2007-10) | 15th Congress (2010-13) | 16th Congress (2013-16) | 17th Congress (2016-2019) | | | 18th Congress (2019-2022) | | | 19th Congress (2023-25) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | *1st Session* | *2nd Session* | *3rd Session* | *1st Session* | *2nd Session* | *3rd Session* | |
| **HOUSE OF REPRESENTATIVES (LOWER HOUSE OF CONGRESS)** | H.B. 5028 (Mandanas) | H.B. 5697 (Santiago) | H.B. 4446 (De Venecia) | H.B. 2075 (De Venecia) | H.B. 5028 (De Venecia) | H.B. 5028 (Villafuerte) | H.B. 5028 (Nieto) | H.B. 1743 (Villafuerte) | H.B. 9127 (Villafuerte) | | H.B. 5028 (Villafuerte) |
| | | | | | H.B. 2562 (Campos) | | | H.B. 5455 (Nieto) | H.B. 9138 (Tambunting) | H.B. 10468 (Cabochan) | H.B. 5107 (Tambunting) |
| | | | | | H.B. 5028 (Vargas) | | | H.B. 1408 (Vargas) | | | H.B. 4741 (Villafuerte) |
| | | | | | H.B. 5028 (Castelo) | | | H.B. 2489 (Castelo) | | | |
| | | | | | H.B. 5028 (Ocampo) | H.B. 7361 (Torres-Gomez) | | H.B. 723 (Torres-Gomez) | | | |
| **SENATE (UPPER HOUSE OF CONGRESS)** | S.B. 1911 (Defensor-Santiago) | S.B. 1751 (Defensor-Santiago) | S.B. 1592 (Defensor-Santiago) | S.B. 398 (Defensor-Santiago) | S.B. 1163 (Villanueva) | | | | S.B. 2188 (Revilla) | | S.B. 1669 (Villar) |
| | S.B. 1946 (Defensor-Santiago) | | | | | | | | | | S.B. 1570 (Revilla) |

The bills enumerated in this table are comprehensive as of April 16, 2024

Analysis of the bills also showed that the majority of the bills were focused on suicide prevention among the youth cohort instead of suicide prevention in the Philippines as a whole. When the titles of the bills were analyzed, 25 out of 32 have the term "youth." Out of the seven other bills that did not bear the term in the title, three bore the term "student" instead, essentially suggesting that the emphasis was also on the youth cohort. The explanatory notes of the bills also seemed to emphasize rates of youth suicide and the youth as the at-risk group when it comes to suicide.

While there were 32 bills proposed about suicide, further analysis of the contents of these bills showed that many of these were almost, if not a complete, reiteration of each other. The only thing that usually changes is the names of the principal authors of the bills, total or partial revisions of the explanatory notes, some rearranging of the sections of the bills, and – rarely –the inclusion of one or two additional provisions in the bills. This being the case, the 32 bills can be reduced into seven different themes. The bills in Table 1 have been color-coded to show which bills are replications of the others.

Four of the bills – H.B. 9127, H.B. 9138, H.B. 10468, and S.B. 2188 – were proposed during the COVID-19 pandemic and its resultant quarantine. Five others – H.B. 5107, H.B. 4741, H.B. 2895, S.B. 1669, and S.B. 1570 – were proposed in 2023 when the country had relaxed much of the COVID-19 restrictions. None of these, however, were unique. Instead, they were still reiterations of older bills: H.B. 9138, H.B. 10468, H.B. 5107, H.B. 4741, S.B. 2188, S.B. 1669, and S.B. 1570 were essentially H.B. 2075 which was proposed a decade ago (2013), while H.B. 9127 and H.B. 2895 were essentially S.B. 1946 which was proposed more than a decade ago

(2005). A comparison between these bills proposed during the pandemic and their earlier versions showed that none of them bear any significant changes or additions that would reflect the Philippine experience during the pandemic.

**Table 2**
*The 32 Suicide-Related Bills Listed according to Their Theme*

| Themes | N | Bills under the theme |
|---|---|---|
| *Theme 1: Anti-Discrimination* | 1 | H.B.5028 |
| *Theme 2: School-based Surveillance* | 4 | S.B.1946; H.B.5697; H.B.9127; H.B. 2895 |
| *Theme 3: Research and Grant-giving* | 5 | S.B.1911; S.B.1751; S.B.1592; S.B.398; H.B.3325 |
| *Theme 4: Structure-based prevention* | 2 | H.B.7361; H.B.723 |
| *Theme 5: Suicide Education* | 2 | H.B.2701; H.B.2489 |
| *Theme 6: Education, Rehabilitation, and Hotlines* | 3 | H.B.5354; S.B.1163; H.B.1408 |
| *Theme 7: Youth Centers, Life Planning, and Counselling* | 15 | H.B.4446; H.B.2075; H.B.1866; H.B.2652; H.B.7858; H.B.8278; H.B.1743; H.B.5445; H.B.9138; H.B.2188; H.B.10468; S.B. 1669; S.B. 1570; H.B. 5107; H.B. 4741 |

Table 2 shows the seven different themes of the suicide bills under study and the bills that fall under each theme. The succeeding discussions also explain the suicide prevention steps stipulated under each theme.

### Theme 1: Anti-Discrimination
This theme is comprised of only one bill. It prohibits discrimination against any doctor, nurse, health professional, worker, employee or student,

public official, or employer who – on the grounds of their conscience – would refuse to provide services or information about services and process that may be undesirable in Philippine culture such as artificial birth control, abortion, sterilization, ligation, artificial insemination, assisted reproduction, human cloning, euthanasia, human embryonic stem cell research, fetal experimentation, and physician-assisted suicide. Based on its stipulations, it is not a bill designed specifically for suicide prevention. Nonetheless, it prevents access to two procedures oftentimes associated with suicide, such as euthanasia and physician-assisted suicide.

### *Theme 2: School-based Surveillance*

This theme consists of four bills. These bills called for the establishment of a Task Force on Student Suicide comprised by the Department of Education, the Commission on Higher Education, and the Technical Education and Skills Development Authority. This Task Force has the following important tasks related to suicide prevention:

1. Collecting information from schools regarding incidences of suicide. This information includes prevalence, demographics (e.g., age and sex), factors, and circumstances (e.g., place of incident, manner of suicide, and whether it was consummated, frustrated, or attempted). This information is used by the Task Force as a basis to make findings, conclusions, and recommendations;

2. Developing and implementing nationwide student suicide early intervention and prevention strategies, and collecting, and analyzing    data on existing similar services for the monitoring of their effectiveness for research, technical assistance, and policy development;

3. Assisting school heads in the timely assessment of students who are at risk of emotional disorders that may lead to suicide, making timely referrals for appropriate community-based mental health care and treatment, and providing immediate support and information resources to families of the student;

4. Assisting school heads in offering equal access to services for at-risk youth and the families and friends of students who recently committed suicide;

5. Providing continuous and up-to-date information and awareness

campaigns on the risk factors of suicide and early intervention and prevention services available.

The bills under this theme have also made reporting of incidences of student suicides mandatory for all schools in the country. Failures of schools to report student suicides are proposed to be penalized with administrative and criminal charges.

## Theme 3: Research and Grant-giving

What is noticeable about the bills under this theme is that these bills were not envisioned to be the panacea to the problem of suicide. Instead, these are seen more as a springboard for future suicide prevention policies. To this effect, these bills mandate the Department of Health to coordinate with other government bodies, non-government organizations, and stakeholders for possible policy-making on nationwide youth suicide early intervention and prevention strategies. Central to this vision of being the springboard for future suicide prevention policies is its drive to gather more information about the phenomenon. The bills under this theme mandate the Department of Health to undertake research programs on the development and assessment of the efficacy of new and existing youth suicide early intervention techniques and technology and disseminate this information to the public. It also mandates the Department of Health to award grants to entities that are involved in suicide surveillance, research, and early intervention and prevention services and conduct evaluations on the effectiveness of the programs that will be given grants.

## Theme 4: Structure-based Prevention

Out of the seven themes of suicide prevention legislation in this study, the bills under this theme were the only ones that approached the problem of suicide with an engineering-centric, rather than a socio-psychological, solution. The bills raised concerns about "accidents, deliberate jump-offs, and falls stemming from 'altered states of mind' in high-rise commercial and residential structures" in the country. Consequently, they propose the mandatory installation of railings (at least 1000mm in height) for balconies, landings, or porches.

## Theme 5: Suicide Education

The bills under this theme mandate the Department of Education,

together with the Department of Health and the Department of Social Welfare and Development, to authorize the inclusion of suicide prevention as an integral part of health education.

### Theme 6: Education, Rehabilitation, and Hotline

The bills under this theme propose several steps concerning suicide prevention. They propose the establishment of a "National Suicide Prevention Coordinating Council" comprised by government, academic, and civil society representatives tasked to identify, monitor, and review strategies for youth suicide early intervention, prevention, and response, and ensure adequate funding and efficient spending for programs concerning youth suicide. This Council is also mandated to coordinate with concerned national agencies in conducting a program of research and development on the efficacy of new and existing youth suicide early intervention techniques and technology.

The creation of a formal body to solve the social problem of suicide is not unique to the bills under this theme. The bills under Theme 2 have also proposed the creation of a similar entity. What makes the proposal of the bills under Theme 6 different from that of the bills under Theme 2 are the following:

(1)   the formal body proposed under Theme 6 is more inclusive – it includes in its organizational framework representatives of the academe and civil societies as opposed to Theme 2's formal body which is to be comprised purely of different governmental bodies;

(2) the Task Force in Theme 2 was mandated to develop youth suicide early intervention and prevention strategies. The Council in Theme 6 is not mandated to develop its own. Instead, the Council is mandated to identify, monitor, and review existing strategies for the same and ensure that they will be adequately funded.

(3) The Council is also mandated to provide technical assistance grants for suicide research – a mandate that is also given to the Department of Health in Theme 3.

Beyond the establishment of the aforesaid Council, the bills under Theme 6 also propose the establishment of a "Youth Suicide Program." This

program is envisioned to accomplish the following tasks: (1) Integrating mental health and personality development education in basic and higher education curricula. The premise of these proposed inclusions in the academic curricula is that these will be able to tackle pertinent issues related to suicide in the classroom. In this vein, the task of the Youth Suicide Program is similar to what is proposed by the bills under Theme 5. What makes the proposed education-related suicide prevention step under Theme 6 different and possibly better than the proposal under Theme 5, however, is that the former proposes the inclusion into the curricula at both the basic and higher education level whereas the latter's proposal – under the limited jurisdiction of the Department of Education – only covers basic education;

(2) Developing mental health and personality development training modules and public campaigns to be implemented in communities, juvenile justice systems, foster care systems, and other youth support organizations and establishments;

(3) Formulating parent-education programs designed to increase family support and capacity for household-based early detection, response, and prevention;

(4) Coordinating with LGUs for programs on early intervention, prevention, and response strategies;

(5) Developing targeted intervention strategies for high-risk youth including those with mental health problems, substance abuse disorder, and other associated risk factors;

(6) Formulating a youth suicide rehabilitation program that aims to assist youth with previous history of suicidal behavior.

Finally, the bills under this theme propose the establishment of a 24/7 Suicide Hotline.

### Theme 7: Youth Center, Life-Planning, and Counselling

The bills under this theme mandate the Department of Education, in coordination with the Department of Health, to formulate a "Life Planning Education" in elementary and secondary education. This Life Planning Education is comprised by discussions on self and identity, personal,

66

A Review of Suicide Prevention Bills in Philippine Legislation and
their Comparison with R.A. 11036: The Mental Health Act

family, and community values, communication and interrelationship with others; sexuality and gender roles, etc. This stipulation of the bills under Theme 7 makes this theme the third of the seven themes to include curricular interventions in their steps against suicide prevention. Theme 7's proposed curricular intervention is similar to Theme 5's in scope: it only covers those in basic education (as compared to Theme 6 which covers basic and higher education). Unfortunately, this study is unable to ascertain how similar or different the contents of the curricular interventions are because the stipulation in Theme 5 did not enumerate what it wanted to be included in the lessons. It merely proposed that the lessons would be subsumed under the existing education in the curriculum. Neither Theme 6 nor Theme 7 also provided a complete enumeration of what specific lessons they wanted to be included in the curriculum. Instead, they merely provided general examples of what ought to be covered. This line of inquiry is likely more feasible if the analysis delves into the Implementing Rules and Regulations (IRRs) – but that is only possible for bills that have been passed into law.

Beyond Life Planning Education, the bills under Theme 7 proposed several other steps against suicide:

(1) Launching a public education campaign that will target the youth, their parents, teachers, school personnel, and the general public. This public education campaign will tackle the (a) increasing problem of youth suicide and suicidal behaviors, (b) the common warning signs of suicidal thoughts and intent, (c) how to respond to youth who exhibit signs, and (d) when and where to go for accurate assessments and help;

(2) Mandating the Department of Health to identify, monitor, and review strategies for youth suicide prevention and develop a suicide data collection system to provide reliable data about attempted suicides in the country;

(3) Establishing a mandatory Peer Counseling Program wherein students are taught basic counseling skills by the school psychologist or guidance counselor;

(4) Requiring the employment of at least one psychologist at the school to visit the school at least once a month and screen students for suicidal intent and tendencies, provide consultation to students and make referrals to mental healthcare when necessary, and offer support and information to the families of youth who are at risk for emotional-behavioral disorders which

may lead to suicide attempts; (5) Establishing Youth Health Centers – a network of health facilities and teen centers catering to young people to address their identified youth issues.

The Suicide Bills and R.A. 11036 (Mental Health Act) Compared

An analysis of the 32 suicide-related bills yielded 19 different steps toward suicide prevention. These 19 steps were compared with the provisions of the Mental Health Law to determine if these steps were already covered by existing legislation and were, therefore, no longer in need of a specific suicide-prevention law to enact them. The results of the comparison are provided in Table 3.

**Table 3**

*Summary of Steps toward Suicide Prevention Proposed by the 32 Suicide-Related Bills and Their Corresponding Provision in R.A. 11036: The Mental Health Act*

| Proposed Steps | Related Bills | Corresponding provision laid out in R.A. 11036 |
|---|---|---|
| Installation of railings for balconies, landings, or porches in high-rise buildings | H.B.7361 H.B.723 | No corresponding provision |
| Prohibition of discrimination against health personnel and other persons who refuse to provide euthanasia or physician-assisted suicide or provide information on such services | H.B.5028 | Section 7. Rights of Mental Health Professionals. Mental health professional shall have the right to: (f) Except in emergency situations, manage and control all aspects of his or her practice, including whether or not to accept or decline a service user for treatment; |

68

A Review of Suicide Prevention Bills in Philippine Legislation and
their Comparison with R.A. 11036: The Mental Health Act

| | | |
|---|---|---|
| Suicide Surveillance (collection of the prevalence, demographics, factors, and circumstances of suicide incidences) | S.B.1946<br>H.B.5697<br>H.B.9127<br>H.B. 2895<br>H.B.4446<br>H.B.2075<br>H.B.1866<br>H.B.2652<br>H.B.7858<br>H.B.8278<br>H.B.1743<br>H.B.5445<br>H.B.9138<br>H.B.2188<br>H.B.10468<br>H.B. 5107<br>H.B. 4741<br>S.B. 1669<br>S.B. 1570 | Section 30. Duties and Responsibilities of the Department of Health (DOH). - To achieve the policy and objectives of this Act, the DOH shall:<br><br>(c) Integrate mental health into the routine health information systems and identify, collate, routinely report and use core mental health data disaggregated by sex and age, and health outcomes, including data on complete and attempted suicides, in order to improve mental health service delivery: promotion and prevention strategies; |
| Development of suicide early intervention and prevention strategies | S.B.1946<br>H.B.5697<br>H.B.9127<br>H.B. 2895 | Section 21. Suicide Prevention. - Mental health services shall also include mechanisms for suicide intervention, prevention, and response strategies, with particular attention to the concerns of the youth. Twenty-four seven (24/7) hotlines, to |

| | | provide assistance to individuals with mental health conditions, especially individuals at risk of committing suicide, shall be set up, and existing hotlines shall be strengthened. |
|---|---|---|
| Undertaking of suicide research | S.B.1911<br>S.B.1751<br>S.B.1592<br>S.B.398<br>H.B.3325<br>H.B.5354<br>S.B.1163<br>H.B.1408 | Section 28. Research and Development. - Research and development shall be undertaken, in collaboration with academic institutions, psychiatric, neurologic, and related associations, and nongovernment organizations, to produce the information, data, and evidence necessary to formulate and develop a culturally relevant national mental health program incorporating indigenous concepts and practices related to mental health.<br><br>High ethical standards in mental health research shall be promoted to ensure that: research is conducted only with |

70

A Review of Suicide Prevention Bills in Philippine Legislation and
their Comparison with R.A. 11036: The Mental Health Act

the free and informed consent of the persons involved: researchers do not receive any privileges, compensation or remuneration in exchange for encouraging or recruiting participants; potentially harmful or dangerous research is not undertaken all research is approved by an independent ethics committee, in accordance with applicable law.

Research and development shall also be undertaken vis-à-vis non-medical, traditional or alternative practices.

Section 30. Duties and Responsibilities of the Department of Health (DOH). - To achieve the policy and objectives of this Act, the DOH shall:

(d) Improve research capacity and academic collaboration on national priorities for research in mental health, particularly

| | | operational research with direct relevance to service development, implementation, and the exercise of human rights by persons with mental health conditions, including establishment of centers of excellence; |
|---|---|---|
| Provision of grants for suicide research Identification, monitoring, and review of suicide early intervention, prevention, and response strategies/ programs | Same as above S.B.1946 H.B.5697 H.B.9127 H.B. 2895 H.B.5354 S.B.1163 H.B.1408 H.B.4446 H.B.2075 H.B.1866 H.B.2652 H.B.7858 H.B.8278 H.B.1743 H.B.5445 H.B.9138 H.B.2188 H.B.10468 H.B. 5107 H.B. 4741 S.B. 1669 S.B. 1570 | Section 40. Duties and Functions. - The Council shall exercise the following duties; (b) Monitor the implementation of the rules and regulations of this Act and the strategic plan for mental health, undertake mid-term assessments and evaluations of the impact of the interventions in achieving the objectives of this Act; |
| Policy-making on nationwide suicide early intervention and prevention strategies | S.B.1911 S.B.1751 S.B.1592 S.B.398 | Section 30. Duties and Responsibilities of the Department of Health (DOH). - To achieve |

72

A Review of Suicide Prevention Bills in Philippine Legislation and
their Comparison with R.A. 11036: The Mental Health Act

| | H.B.3325 | the policy and objectives of this Act, the DOH shall: (a) Formulate, develop, and implement a national mental health program. In coordination with relevant government agencies, create a framework for Mental Health Awareness Program to promote effective strategies regarding mental healthcare, its components, and services, as well as to improve awareness on stigmatized medical conditions |
| --- | --- | --- |
| Assessment of students who are at risk of emotional disorders which may lead to suicide and timely referrals for appropriate community-based mental health care and treatment. | S.B.1946 H.B.5697 H.B.9127 H.B. 2895 | No corresponding provision |
| Establishment of a suicide hotline | H.B.5354 S.B.1163 H.B.140 | Section 21. Suicide Prevention. - Mental health services shall also include mechanisms for suicide intervention, |

|  |  | prevention, and response strategies, with particular attention to the concerns of the youth. Twenty-four seven (24/7) hotlines, to provide assistance to individuals with mental health conditions, especially individuals at risk of committing suicide, shall be set up, and existing hotlines shall be strengthened. |
|---|---|---|
| Inclusion of suicide education and related topics in school curricula | H.B.2701 H.B.2489 H.B.5354 S.B.1163 H.B.1408 H.B.4446 H.B.2075 H.B.1866 H.B.2652 H.B.7858 H.B.8278 H.B.1743 H.B.5445 H.B.9138 H.B.2188 H.B.10468 H.B. 5107 H.B. 4741 S.B. 1669 S.B. 1570 | Section 23. Integration of Mental Health into the Educational System. - The State shall ensure the integration of mental health into the educational system, as follows:

(a) Age-appropriate content pertaining to mental health shall be integrated into the curriculum at all educational levels; and

(b) Psychiatry and neurology shall be required subjects in all medical and allied health courses, |

74

A Review of Suicide Prevention Bills in Philippine Legislation and their Comparison with R.A. 11036: The Mental Health Act

including post-graduate courses in health.

Section 34. Duties and Responsibilities of the Department of Education (DepEd), Commission on Higher Education (CHED), and the Technical Education and Skills Development Authority (TESDA). - The DepED, CHED and TESDA shall:

(a) Integrate age-appropriate content pertaining to mental health into curriculum at all educational levels both in public and private institutions;

(b) Develop guidelines and standards on age-appropriate and evidence-based mental health programs both in public and private institutions;

(c) Pursue strategies that promote the realization of mental health and well-being in educational institutions; and

| | | |
|---|---|---|
| | | (d) Ensure that mental health promotions in public and private educational institutions shall be adequately complemented with qualified mental health professionals. |
| Designign of parent-education programs designed to increase family support and capacity for household-based early detection, response, and prevention | H.B.5354 S.B.1163 H.B.1408 | No corresponding provision |
| Youth suicide rehabilitation program for those with previous history of suicidal behavior | Same as above | No corresponding provision |
| Public awareness campaign | H.B.5354 S.B.1163 H.B.1408 H.B.4446 H.B.2075 H.B.1866 H.B.2652 H.B.7858 H.B.8278 H.B.1743 H.B.5445 H.B.9138 H.B.2188 H.B.10468 | Section 22. Public Awareness. - The DOH and the LGUs shall initiate and sustain a heightened nationwide multimedia campaign to raise the level of public awareness on the protection and promotion of mental health and rights including, but not limited to, mental health and nutrition, |

76

A Review of Suicide Prevention Bills in Philippine Legislation and
their Comparison with R.A. 11036: The Mental Health Act

| | | |
|---|---|---|
| | H.B. 5107<br>H.B. 4741<br>S.B. 1669<br>S.B. 1570 | stress handling, guidance and counseling, and other elements of mental health. |
| Support for families and friends of at-risk youth | S.B.1946<br>H.B.5697<br>H.B.9127 | Section 6. Rights of Family Members, Carers and Legal Representatives. - Family members, carers and duly designated or appointed legal representative of the service user shall have the right to:<br><br>(a) Receive appropriate psychosocial support from the relevant government agencies.;<br><br>Section 30. Duties and Responsibilities of the Department of Health (DOH). - To achieve the policy and objectives of this Act, the DOH shall:<br><br>(h) Provide support services for families and co-workers of service users, mental professionals, workers, and other service providers; |

| Mandatory reporting of incidences of student suicides with corresponding administrative and criminal charges for violation thereof | Same as above | No corresponding provision |
|---|---|---|
| Mandatory peer counselling program | H.B.4446<br>H.B.2075<br>H.B.1866<br>H.B.2652<br>H.B.7858<br>H.B.8278<br>H.B.1743<br>H.B.5445<br>H.B.9138<br>H.B.2188<br>H.B.10468<br>H.B. 5107<br>H.B. 4741<br>S.B. 1669<br>S.B. 1570 | No corresponding provision |
| Employment of school psychologists for counselling and assessment | Same as above | Section 24. Mental Health Promotion in Educational Institutions.<br>- Educational Institutions, such as schools, colleges, universities, and technical schools, shall develop policies and programs for students, educators, and other employees designed to: raise awareness on mental health issues, |

78

A Review of Suicide Prevention Bills in Philippine Legislation and
their Comparison with R.A. 11036: The Mental Health Act

|  |  | identified and provide support and servicesfor individuals at risk, and facility access, including referral mechanisms of individual with mental health conditions to treatment and psychosocial support.

All public and private educational institutions shall be required to have a complement of mental health professionals. |
|---|---|---|
| Establishment of youth health centers | Same as above | Section 16. Community-based Mental Health Care Facilities. - The national government through the DOH shall fund the establishment and assist in the operation of community-based mental health care facilities in the provinces, cities and cluster of municipalities in the entire country based on the needs of the population, to provide appropriate mental health care services, and enhance the |

rights-based approach to mental health care. Each community-based mental health care facility shall in addition to adequate room, office or clinic, have a complement of mental health professionals, allied professionals, support staff, trained barangay health workers (BHWs) volunteer, family members of patients or service users, basic equipment and supplies and adequate stock of medicines appropriate at that level.

Table 3 shows that out of the 19 steps for suicide prevention stipulated in the bills, 12 had a corresponding provision in the Mental Health Act. There were 5 themes that had suicide prevention steps that were unaccounted for in the law. Themes 3, 4, and 7 had one proposed step each which is unaccounted for. Theme 2 had two proposed steps, and Theme 6 had three proposed steps that were unaccounted for. It is worth noting that the corresponding provisions do not always wholly cover the thought behind the suicide prevention steps. A common example of this is the suicide preventions steps wherein the corresponding provision in the Mental Health Act are coming from the law's Sections 5, 6, and 7. These three sections – which form Chapter II of R.A. 11036 – only discuss the rights accorded to mental health service users and other stakeholders such as their families, carers, and mental health professionals. While the law provides these stakeholders with demandable rights, it does not necessarily provide a concrete program or service that is related to suicide prevention. This means that the stakeholders will still find it difficult to enjoy the promises of this legislation.

Some provisions of the Mental Health Act are also left ambiguous. For example, while Sections 23 and 34 of R.A. 11036 mandate the inclusion of mental health in educational curricula, it is unclear if the coverage of mental health here includes suicide. This is important to note because schools might perceive suicide as a very sensitive topic and might opt not to include it in their instruction. Indeed, there is already precedence for this concern elsewhere: Emile Durkheim's Sociology of Suicide has been omitted from the syllabus out of fear of its capability to "trigger" and cause "undue distress" (Selvarajah, 2015). Therefore, even if the proposed step about including suicide education in the curriculum may be covered by the provisions of R.A. 11036, the challenge might be on the implementation. The sensitive nature of suicide as a subject matter may meet the same resistance that other topics sensitive to Philippine culture have experienced – such as the case of the mandated course on the Life and Works of Jose Rizal several decades ago (Abinales & Amoroso, 2005) and sex education as mandated by R.A. 10354 or simply known as the RH Law in the recent years (Geronimo, 2016). It is worth noting, however, that a recent study (Quintos, 2023a) showed that there was an increasing number of Filipino youth who were exposed to suicide – either because they had friends who had attempted the act or because they had thought of, or attempted, the act themselves. It has been found that people with previous suicide experiences tend to have more liberal attitudes toward suicide and are willing to be part of conversations centered on the subject matter (Quintos, 2023b). Given that the recent reports from the Philippine Statistics Authority indicate that suicide is becoming more prevalent, people might be more open to discussing it in a classroom setting.

To summarize, the proposed steps which have no corresponding provisions in the law are the following:

1. installation of railings for balconies, landings, or porches in high-rise buildings;
2. mandatory reporting of incidences of student suicides with corresponding administrative and criminal charges for violation thereof;
3. provision of grants for suicide research;
4. assessment of students who are at risk of emotional disorders that may lead to suicide and timely referrals for appropriate community-based mental health care and treatment;
5. youth suicide rehabilitation program for those with previous history of suicidal behavior;

6. mandatory peer counselling program;

7. parent-education programs designed to increase family support and capacity for household-based early detection, response, and prevention.

When it comes to societal responses to suicide, laws and programs can come in various forms. Some criminalize the act. This is grounded on the concept of felo de se or "felony of the self". In pre-modern times, this was done by arresting and bringing suicide attempters to trial, while those who succeeded in their suicide attempts had their properties confiscated. In modern times, some countries discount or void the will of persons who died due to suicide as well as their claims for insurance compensation. Beyond criminalization, however, countries have adopted three forms of response to suicide (Rosario, 2019). The first type is suicide prevention. Prevention in this type comes in the form of depriving or limiting the access of people to the means through which suicide can be undertaken. This includes the limitation of access to lethal means such as guns, substances, or even areas wherein suicide can effectively be committed. Among the steps proposed by the suicide bills that are unaccounted for by the Mental Health Act, one falls under this type. The two other types of response are suicide intervention and suicide regulation. Suicide intervention is done by identifying people who are at risk of suicide and providing programs through which they can be dissuaded from the act. These often come in the form of awareness and counseling programs. The majority of the proposed steps fall under this type of response. The third type, suicide regulation, is done when a country merely wishes to regulate who can be allowed to die by suicide by identifying requirements or a set of criteria as to when a suicide is deemed acceptable. This is the case for regulations on euthanasia and assisted voluntary dying. None of the proposed steps fall under this type of response. There is no example of this type of legislative response among the bills under study although there is a bill – H.B. 5028 – that prevents discrimination against health personnel who would refuse to participate in the conduct of, or give information about, euthanasia or physician-assisted deaths.

The installation of railings for balconies, landings, or porches in high-rise buildings can be considered a prudent move toward suicide prevention in the form of restriction of lethal means. This means that instead of reducing the risk of suicide of persons, the approach focuses on restricting access to means or methods of suicide that prove fatal such as guns, poisonous substances, and highly-elevated areas. This approach has been proven effective in reducing suicide incidences in the past (Ryan & Oquendo, 2020). A simple check of news articles in the past decade yields

information about more than a dozen cases of suicides that transpired in shopping malls in the country where victims jumped to their deaths from the upper floors of the buildings. Several more deaths have also transpired in condominium buildings in the country – some of which have become viral on social media because witnesses managed to capture the incident on their smartphones or, in at least one case, the victim himself has decided to live stream the act of suicide on social media. It is worth noting, however, that this step is limited in its effectiveness. Suicide by jumping from highly-elevated areas, while attention-catching, is not one of the most prevalent methods of suicide in the Philippines. Instead, the most common methods of suicide are hanging, shooting, ingesting poisonous substances, and slashing of the wrists (Redaniel et al., 2011; Quintos, 2017a). Furthermore, the restriction of access to lethal means – in this case, restriction against jumping – proposed in this bill is limited to high-rise buildings. Meanwhile, another notable area where people attempt suicide through the act of jumping is overlooked: train stations. Thus far, there are no bills proposed to require structures that can prevent people from jumping into train tracks, albeit the act is notable enough to warrant a senate resolution asking for inquiry on the matter (Senate Resolution No. 994, 16th Congress of the Philippines).

The mandatory reporting of suicide incidences among students may be a necessary step given the unreliability of suicide-related information that suicidologists usually have to deal with. For several centuries, suicide statistics had usually been underreported (De Leo, 2015) – a consequence of many factors such as stigma, limited frequency and extent of autopsies, a reluctance among medical examiners to declare a death as suicide and, in some societies, the criminal penalties associated with suicide that burdens either their mortal remains or their estate (Alvarez, 1972; Skinner et al., 2017; Gray et al., 2015; Stefan, 2016). In the case of the Philippines, Redaniel et al.'s study (2011) reported that there was  indeed underreporting in terms of suicide data. This underreporting can partly be due to the stigma associated with suicide. Suicides are often treated as scandalous news that institutions of learning would likely prefer to not be associated with. The mandatory reporting of suicide incidences can help solve this data problem. Information that may be obtained from the proposed suicide reports will then be useful in future suicide-related studies (encouraged and strengthened by the proposed grants for suicide research) which can help in formulating more evidence-based suicide-related policies.

The proposal to assess students for their risk of suicide to make timely referrals to appropriate community-based mental health care and treatment is a welcome idea – albeit one that is not certain to succeed as it

is dependent on the instruments used and the resources available for such an undertaking. In a review of extant suicide risk assessment instruments and approaches, Lotito and Cook (2015) noted that attempts to assess the suicide risk among individuals are not always effective and that around 1 out of every 5 persons who commit suicide had a session with a mental health professional within 30 days from the day they committed the act. This is because persons who are intent on suicide tend to not readily admit suicide ideation or suicide planning to mental health professionals. These assessments are made more difficult by the fact that there is no single factor that can predict suicidal tendencies. Even when suicide assessment instruments are used, the effectiveness of these tools can leave much to be desired. In a systematic review of suicide assessment instruments, Harris et al. (2019) noted that some instruments used today can have a specificity value of as low as 27% and a positive predictive value of as low as 25%. The potential disadvantages of this proposed step are discussed succinctly by Mortali (2017) in this manner:

> Even with acceptable sensitivity and specificity, screening measures will necessarily miss some in the population who will go on to make suicide attempts, while identifying many more as at risk when they are not. The often transient or episodic nature of suicidality among young people makes screening this population even more difficult. Given that costs are involved each time a segment of the target group is screened, most school-based screening programs assess students only once a year, and in some cases, only once during a several-year period. The timing of the screening may increase or decrease the likelihood of identifying students in need of referral. (p. 500)

Another proposed step that is unaccounted for in R.A. 11036 is the establishment of a youth suicide rehabilitation program. The bills did not expound on what the legislators had in mind in terms of a rehabilitation program, only that they wanted one to be formulated to provide "assistance to youth with previous history of suicidal behavior." What is clear, however, is that this program would serve as a response - not a preemptive intervention – to suicide. In other countries, there are several strategies – or therapeutic modalities - employed by various treatment providers for suicide-related rehabilitation. These treatments can be categorized into pharmacotherapy – wherein predisposing factors of suicide are managed through medication – and psychotherapy – wherein suicide risk is treated through verbal and psychological techniques such as Cognitive Behavioral

Therapy and Dialectical Behavior Therapy. Both pharmacotherapeutic and psychotherapeutic approaches have been reported to be effective in curbing suicide based on a systematic review by Mann et al. (2021). These rehabilitation programs may also come in the form of either in-patient or out-patient treatment. While both in-patient and out-patient treatments are considered acceptable, the former has the advantage of providing greater surveillance of patients – allowing for fewer opportunities for repeat suicide attempts. The in-patient treatment also has the latent advantage of being able to isolate the patient from materials that could serve as lethal means of suicide such as guns, bladed objects, highly-elevated areas, and unregulated dosage of substances. Despite these advantages, in-patient rehabilitation also has its drawbacks. The process has been criticized for its tendency to be humiliating, stigmatizing, potentially coercive, isolating, and traumatic (Large & Kapur, 2018). For these reasons, in-patient treatment has been cautioned to be a potential causal factor, instead of a deterrent, for suicide (Large et al., 2017).

The mandatory peer counseling program is an interesting proposal to curb suicide. In other areas that have implemented a similar program, the usual rationale is two-fold. First, it is more economical to utilize students as partners in counselling efforts especially when the employment of psychologists is difficult due to costs and/or sheer lack of availability (Robinson et al., 1991). Second, young people suffering from suicide and related psychological crises tend to confide more with their peers than other potential sources of help (Morey et al. 1993). Indeed, a study about suicide experiences and help-seeking among Filipino undergraduate students (Quintos, 2023a) reported that the majority of Filipino youth who had suicide-related experiences in his study did not seek help during their crisis. However, among those who did, the most frequent choice for their help-seeking behavior was peers instead of more professional sources, such as guidance counselors or suicide hotlines. While these two reasons make the premise of peer counseling attractive, the proposed step also has its potential disadvantages. Lewis and Lewis (1996) cautioned about three potential pitfalls of such an endeavor:

First, serving as peer counselors for an issue as heavy as suicide – a topic that should be overseen by mental health professionals - is a big burden to be shouldered by mere students. Being peer counselors may be an excessive responsibility for people of such young ages. Second, the training and implementation of peer counseling programs need to be overseen by competent mental health professionals. This posits the need for mental health professionals who are not only versed in dealing with suicide

crises but also in how to conduct training for peer counselors and how to administer a peer counseling program. Unfortunately, in the bills wherewith this proposed step emanated from, the school psychologist's required duty to a school is just once a month. For all practical purposes, this makes the program a difficult undertaking. Third, Lewis and Lewis' research noted that adolescents who are attracted to the peer counselor role tended to have their own mental health issues – which might put them at risk of suicide if they were not excluded from the peer counselor role. Even among would-be peer counselors who are not suffering from any mental health issues, their exposure to suicide could make them more at risk of suicide because the process produces a normalizing atmosphere to the act and triggers a behavioral contagion. Lewis and Lewis' points are in agreement with what has been observed in the Philippines. In 2017, Adsuara reported about a support group that was formed on the popular social networking site, Twitter, by young Filipinos. This support group – essentially performing the role of peer counselors - was formed as a response to their perceived inadequacy of suicide hotlines in the Philippines during the time. Many of the volunteers of the support group were not formally trained on how to deal with suicide crises and were primarily motivated to help because of their own experiences of suicide and other mental health crises. This made the endeavor potentially dangerous to the would-be help-seekers and to themselves, especially because previous Philippine suicide studies (Quintos, 2017b; Quintos, 2019b) indicated that exposure to suicidal peers was a significant predictor of future suicide ideation and suicide attempts.

Finally, the proposed Parent-education program is also a commendable step. Data from the study as mentioned earlier on suicide and help-seeking (Quintos, 2023a) showed that the family is the second most frequent choice as a source of help for the Filipino youth during a suicide crisis. Furthermore, the family-suicide connection is important in scientific literature. Previous Philippine-based studies that looked into the prevalent reason for suicide found family problems as the most common reason for attempting suicide (Quintos, 2017a; Quintos, 2023a; Itao & Pederi, 2021) or identified family factors – especially relationship with parents - as significant correlates or predictors of suicide (Quintos, 2017b; Quintos, 2019b; Quintos, 2020; Lopiga, 2021; Lagman et al., 2021; Tan et al., 2019). Therefore, education-based support that would make families – particularly the parents – a source of help against suicide instead of the reason for suicide – is a big advantage.

## Conclusion and Recommendation

The results showed that there were 32 suicide bills proposed in the Philippine Congress in a span of 20 years (2004 to March 2023). Within these 20 years, none of these bills were eventually passed into law. The Mental Health Act, in comparison, took 16 years before it was eventually passed into law (Samaniego, 2022). These bills, when their contents are analyzed, can be divided into seven themes, and they stipulate 19 different steps for suicide prevention – out of which only 12 are partially covered by R.A. 11036: Mental Health Act. Given the recent rise in the rates of suicide despite the existence of the Mental Health Act, policymakers and interest groups need to consider that there is a need for a suicide law beyond R.A. 11036. This paper recommends that the following considerations be undertaken when such a law is formulated.

### A Need to Review the Extant Suicide Bills and Their Provisions

While it has been established that the Mental Health Act has limitations in its scope, it also cannot be said that the current direction of proposed suicide-related bills is wholly appropriate. The study has shown that the provisions from the most commonly proposed theme (Theme 7; N=15) are also often covered – albeit usually not focused on – by the provisions of the Mental Health Law. This suggests that while there is a necessity for a suicide-focused law in the Philippines, there is also a need for a reconfiguration of the current proposals to avoid redundancy and instead account for the steps in suicide prevention unaccounted for in the existing law. Future studies should also look into two aspects of suicide legislation: the content of suicide prevention laws in countries with low suicide rates, and the effectiveness of the proposed suicide prevention steps found in suicide-related bills based on empirical studies

### A Need for a More Comprehensive and Responsive Suicide Law

It is also ill-advised to rely on the current set of suicide-related bills when formulating suicide-related legislation. This is because the current set of suicide-related bills is limited in scope in at least two ways: (1) target population and (2) contexts taken into consideration.

In terms of target population, the findings of this study showed that the majority of the bills are focused on suicide prevention among the youth cohort instead of suicide prevention in the Philippines as a whole. While

this focus on the youth is justifiable to an extent because the country has a predominantly young population and suicidological literature points to the youth as a cohort that is commonly at risk of suicide, this does not mean that the youth are the only age cohort that is at-risk. The elderly, for example, are also suffering from mental health issues including suicide. The case of the elderly is a prime cause for concern because their mental health issues are exacerbated by health problems, bereavement from the loss of loved ones, and retirement (Cruz et al, 2019). In terms of suicide laws in the form of suicide intervention, these older members of the population also have a lesser tendency than the young in terms of seeking help because of the social stigma associated with suicide – a cultural element that they embrace more than the younger generations (De Villa, 2022). As the demographic profile of the country shifts slowly to an inverted population pyramid – a situation projected to happen in the next decade (Delizo, 2022), it will become more and more prudent to make legislation with foci beyond the youth. In terms of context, suicide-related legislation would benefit from being responsive to certain contexts or situations that might serve as a contributory factor to suicide. Situations such as economic recessions, disasters, and catastrophes are often the kind of circumstances that suicide theories tend to identify as risk factors (Quintos, 2017c). The current set of proposals, however, leaves much to be desired. For example, 9 of the 32 suicide bills were proposed after the COVID-19 pandemic struck the country. None of these nine, however, are unique but are instead reiterations of a set of older bills submitted more than a decade ago. Despite being bills born during the pandemic, none underwent changes that may account for societal experiences during the pandemic and the surge in suicide rates. Beyond the COVID-19 threat, the country is situated in the Pacific Ring of Fire and also experiences an average of 20 typhoons annually. This means that the socio-economic security of the people is often imperiled, possibly putting them at a greater risk of suicide.

## A Need to Check the Philippine Socio-Cultural Climate

The study also found that the current set of suicide-related proposals comes in the form of suicide surveillance, prevention, and intervention. None of the provisions of the bills pertain to any form of suicide regulation, such as voluntary assisted dying. This lack of proposals for suicide regulation does not likely stem from a general aversion to death – a 2017 Pulse Asia Survey showed that the majority of the respondents were in favor of the death penalty for certain heinous crimes, while a 2018 SWS Survey showed that the majority of their respondents favored death penalty for

certain heinous crimes, albeit this figure decreased to just 47% when other punishment options were available. Rather, the lack of suicide regulation in the provisions is likely due to the predominantly Roman Catholic socio-cultural background of the country. Roman Catholicism has a long history with suicide – with early Christians favoring suicide (in the form of deliberately seeking death by martyrdom) before St. Augustine declared the act immoral and a mortal sin in violation of the commandment against killing (Alvarez, 1972). This socio-cultural barrier to voluntary assisted dying and other forms of suicide regulation laws could either be part of the convictions of the legislators or of what the legislators believe to be part of the convictions of the voting public

The voting public's views on suicide might change in the succeeding years. As previously mentioned, data from the Philippine Statistics Authority points to an increasing number of people who are exposed to experiences of suicide. Furthermore, previous scholarly works have shown that the aforementioned kind of people tend to have more permissive views toward suicide (Quintos, 2023b; King et al., 1996; Eskin et al., 2014; Senf et al., 2022). It was also previously mentioned that the Philippine demographic profile was starting to change and that the next decade could see an aging Filipino population. In relation to this, there are many common reasons given by people for availing voluntary assisted dying, such as loss of autonomy, loss of ability to enjoy activities, and fear of suffering – especially those with malignancies, neurological diseases, and organ failures (Wiebe et al., 2018). These reasons are issues often experienced by an aging population. Even now, while the Philippine population is still predominantly young, chronic and potentially painful diseases (e.g., cancer) are already the third leading cause of death in the country (Montemayor, 2023). It can be argued, therefore, that there is a possible present and future need and support for assisted voluntary dying in the country.

## References

Abinales, P.N., & D. Amoroso. (2005). *State and society in the Philippines.* Rowman & Littlefield.

Adsuara, M. (2017). *An exploratory study of an informal organization dealing with suicide ideation: The case of the Twitter support group*[Unpublished Thesis Manuscript]. University of the Philippines Los Baños.         .

Alvarez, A. (1972). *The savage god: A study of suicide.* Crown Publishing Group/Random House.

Blumer, H. (1971). Social problems as collective behavior. *Social Problem 18*(3),298-306.

Cruz, G.T., Cruz, C.J.P., & Saito, Y. (2019). Ageing and health in the Philippines. Economic Research Institute for ASEAN and East Asia (ERIA).

De Leo, D. (2015). Can we rely on suicide mortality data? *Crisis, 36*(1), 1-3. DOI: 10.1027/0227-5910/a000315

Eskin, M., Palova, E., & Krokavcova, M. (2014). Suicidal behavior and attitudes in Slovak and Turkish high school students: A cross-cultural investigation. *Archives of suicide research: Official Journal of the International Academy for Suicide Research, 18*(1), 58–73.

Geronimo, J. (2016). Sex education in PH schools still lacking – UNFPA. Rappler. Retrieved April28, 2022 from https://www.rappler.com/nation/139118-sex-education-philippines-unfpa/.

Gray, D., Coon, H., McGlade, E., Callor, W., Byrd, J., Viskochil J., Bakian, A., Yurgelun-Todd, D., Grey, T., McMahon, W. M.(2015 Comparative analysis of suicide, accidental and undetermined cause of death classification. *Suicide and Life-Threatening Behavior, 44*(3), 304-316.

Harris, I. M., Beese, S., & Moore D. P. (2019). Predicting future self-harm or suicide in adolescents: A systematic review of risk assessment scales/tools. *BMJ Open, 9*(9)e029311. doi: 10.1136 bmjopen-2019-029311

Itao, A.D., & Pederi,R. E. (2021). Factors affecting the suicide phenomenon in Cebu City, Philippines, based on the responses of the victims' significant others. *Agathos, 12*(2),235-245.

90

A Review of Suicide Prevention Bills in Philippine Legislation and
their Comparison with R.A. 11036: The Mental Health Act

King, S. R., Hampton, W. R., Jr, Bernstein, B., & Schichor, A. (1996).
College students' views on suicide. *Journal of American College
Health, 44*(6), 283–287.

Lagman, J., Gara, M., Baweja, R., &  Kim, W. J. (2021) Correlates of suicide
attempts in Filipino Youths: An analysis based on the 2015 global
school-based student health survey. *Cureus, 13*(9), e18100.
DOI 10.7759/cureus.18100.

Large, M. M., & Kapur,N. (2018). Psychiatric hospitalisation and the risk
of suicide. *British Journal of Psychiatry, 212*(5), 269-273.DOI:
https://doi.org/10.1192/bjp.2018.22.

Large, M. M., Chung, D. T., Davidson, M., Weiser, M., & Ryan, C. J.
(2017). In-patient suicide: selection of people at risk, failure of
protection and the possibility of causation. *BJPsych Open, 3*(3),
102–105.https://doi.org/10.1192/bjpo.bp.116.004309

Lewis, M.W., & Lewis, A.C. (1996). Peer helping programs: Helper
role, supervisor training, and suicidal behavior. *Journal of
Counseling & Development 74* (3), 307-313.

Lopiga, R. (2021). Suicide potential and depression: Risk and protective
factors among college students in the Philippines. *The Normal
Lights, 15*(2), 189-208.

Lotito, M., & Cook, E. (2015). A review of suicide risk assessment
instruments and approaches. *Mental Health Clinician, 5*(5), 216–
223. doi: https://doi.org/10.9740/mhc.2015.09.216

Mann, J. J., Michel, C. A., & Auerbach, R. P. (2021). Improving suicide
prevention through evidence-based strategies: A systematic
review. *The American Journal of Psychiatry, 178*(7), 611–624.
https://doi.org/10.1176/appi.ajp.2020.20060864

Montemayor, M. T. (2023). *Cancer third leading cause of death in PH*.
Philippine News Agency. Retrieved April 15, 2023 from https://
www.pna.gov.ph/articles/1196057

Morey, R. E., Miller, C. D. Rosen, L.A. & Fulton, R. (1993). High school peer counseling: The  relationship between student satisfaction and peer counselors' style of helping. *The School Counselor, 40*(4), 293-300.

Mortali, M. G. (2017). Universal approaches to youth suicide prevention. In D. Romer, Annenberg Public Policy Center, & Annenberg Foundation Trust at Sunnylands, *Treating and preventing adolescent mental health disorders: What we know and what we don't know (A research agenda for improving the mental health of our youth).* Oxford University Press.

Ornell, F., Borelli, W.V., Benzano, D., Schuch, J.B., Moura, H.F., Sordi, A.O., Kessler, F.H.P., Scherer, J.N., &  Diemen, L. (2021). The next pandemic: Impact of COVID-19 in mental healthcare assistance in a nationwide epidemiological study. *The Lancet, 4*(100061). DOI:https://doi.org/10.1016/j.lana.2021.100061

Quintos, M. A. (2017a). Prevalence of suicide ideation and suicide attempts among the Filipino youth and its relationship with the family unit. *Asia-Pacific Journal of Multidisciplinary Research, 5*(2), 11-23.

Quintos, M. A. (2017b). Predictors of suicide ideation among the Filipino youth: Findings from a nationally representative survey of Filipinos aged 15 to 27. *Journal of Multidisciplinary Studies, 6*(2), 1-16.

Quintos, M.A. (2017c). Towards a push-pull theoretical understanding in the sociology of suicide: Revisiting what we know and what we can explore. *Silliman Journal, 58*(1),153-183.

Quintos, M. A. (2019a). Suicide ideation, suicide planning, and suicide attempts among high school students in the Philippines: Trends and insights from four nationally representative datasets. *Journal of Social Health, 2*(2), 20-33.

Quintos, M. A. (2019b). Who are knocking on death's door? Predictors of suicide attempt among young Filipino suicide ideators. *Asia Pacific Journal of Multidisciplinary Research, 7*(1),11-24.

Quintos, M. A. (2020). Prevalence and predictors of planned and impulsive suicides among Filipino students using a nationally representative sample: Highlighting the importance of parental and peer-group factors. *Journal of Social Health, 3*(1), 91-101.

Quintos, M. A. (2023a). Experiences of suicide ideation and attempts among Filipino undergraduate students from two universities in Metro Manila: Prevalence, reasons, and help-seeking behavior. *Social Sciences and Development Review, 14,* 19-44.

Quintos, M. A. (2023b). Relationship between the youth's perspectives on suicide and their suicide-related experiences. *Social Sciences and Development Review, 15*, 83-98.

Redaniel, M.T., Lebanan-Dalida, M.A., & Gunnell, D. (2011). Suicide in the Philippines: Time trend analysis (1974-2005) and literature review. *BMC Public Health, 11,* 536.

Ritzer, G. (2008). *Modern sociological theory* (4th ed.) . McGraw-Hill .

Robinson, S. E., Morrow, S. Kigin, T., &  Lindeman, M. (1991). Peer Counselors in a high school    setting: Evaluation of training and impact on students. *The School Counselor 39* (1), 35-40.

Rosario, A. L. C. (2019). Influencing suicide rates among the elderly: The suicide prevention and regulation policies of Japan, the Netherlands, and South Korea. *Comparative Sociology, 18*(5–6), 757–790.

Ryan, E., & Oquendo, M. (2020). Suicide risk assessment and prevention: Challenges and opportunities. *Focus, 18*(2), 88-99. https://doi.org/10.1176/appi.focus.20200011

Samaniego, R. (2022). Mental health legislation in the Philippines: Its beginnings, highlights, and updates. *Taiwanese Journal of Psychiatry, 36*(2), 51-58.

Selvarajah, S. (2015). Suicide dropped from sociology lessons – are some topics too sensitive for school? *The Guardian.* Retrieved April 26, 2022 from https://www.theguardian.com/education/2015/jun/15/suicide-dropped-sociology-exam-a-level

Senf, B., Maiwurm, P., & Fettel, J. (2022). Attitudes and opinions towards suicidality in professionals working with oncology patients: results from an online survey. *Supportive care in cancer: Official Journal of the Multinational Association of Supportive Care in Cancer, 30*(2), 1775–1786.

Skinner, R., McFaull, S., Rhodes, A., Bowes, M. & Rockett, I. (2017). Suicide in Canada: Is   poisoning misclassification an issue? *Canadian Journal of Psychiatry, 6*(7), 405-412. DOI: 10.1177/0706743716639918

Stefan, S. (2016). Rational suicide, irrational laws: Examining current approaches to suicide in policy and law. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199981199.001.0001.

Tan, A. C., Reyes, M. E., & Davis, R. (2019). Parental attitude, internalized homophobia, and suicidal ideation among selected self-identified filipino gay men in the Philippines. *Suicidology Online, 10*(8).

Wang, S., Wright, R., & Wakatsuki. Y. (2020). *In Japan, more people died from suicide last month than from Covid in all of 2020. And women have been impacted most.* CNN. Retrieved April 27, 2022 from https://edition.cnn.com/2020/11/28/asia/japan-suicide-women-covid-dst-intl-hnk/index.html

Wiebe, E., Shaw, J., Green, S., Trouton, K., & Kelly, M. (2018). Reasons for requesting medical assistance in dying. *Canadian Family Physicia, 64*(9), 674-679.

# Assessment of Needs and Barriers to Continuing Professional Development among Nurses

Freslyn Lim-Saco
*Silliman University College of Nursing, Dumaguete City, Philippines*

Theresa A. Guino-o
*Silliman University College of Nursing, Dumaguete City, Philippines*

## Abstract

Continuing Professional Development (CPD) is vital for nurses professional growth and advancement, ensuring high-quality, and safe patient care. This study explores the CPD needs and barriers among 51 nurses in Negros Oriental, using data from an electronic questionnaire after ethics clearance was obtained. Key CPD needs identified were Evidence-Based Practice, Promoting Healthy Workplace Culture, and Emergency Trauma Care. Major barriers included cost/registration fees, work schedules, and transportation. The study concludes that while nurses are keen on CPD and engagement in self-directed learning activities, financial, administrative, and socio-political support are needed. A well-tailored CPD program based on the knowledge of the needs and barriers enable nurses to stay updated with the latest advancements in healthcare thereby promoting high quality patient care, improvement in health outcomes, and contribute to functional multidisciplinary healthcare teams. It recommends similar studies across the Philippines to facilitate participatory and contextualized CPD implementation.

**Keywords:** continuing professional development, nursing education, barriers to CPD, evidence-Based Practice, workplace culture

## Introduction

### Background

Continuing Professional Development (CPD) of nurses is essential for personal and professional growth, organizational development as well as the promotion of high quality and safe nursing care. Nurses must keep themselves updated with the changes and advancement in information and technology to upgrade their knowledge and skills for professional

practice. As stated in the Philippine Nursing Act of 2002 Section 28 in the Scope of Nursing, in all settings in the practice of nursing, the nurse is required under the Code of Ethics to uphold the standards of safe nursing practice. The nurse is mandated by the Nursing Law to maintain competence.

CPD is necessary for a nursing workforce that is competent, motivated and able to provide patient safety (Pool et al., 2016). Nurses from Australia, USA, UK, China, Hongkong, and Malaysia are required to engage in Continuing Professional Education (CPE) (Chong et al., 2014). Registered Nurses in the Philippines are also required to engage in CPD as it is a mandatory requirement for the renewal of their professional license as specified in the CPD Law Article III Section 10 (CPD Act, 2016).

In compliance with Executive Order No. 266 signed by President Ramos on July 25, 1995, the standardized implementing guidelines and procedures for the Continuing Professional Education programs were found in the PRC Resolution No. 381 that was implemented on November 13, 1995. Professional nurses were required to undergo CPE programs that were administered by various CPE providers that aimed to advance their field of practice and maintain competent nursing skills. Udani (2002) noted that the CPE requirements were abolished in the year 2000 due to issues on poor management of providers, money-making and lack of relevance of programs to the professionals.

It was only on July 21, 2016 when the CPD Act of 2016 lapsed into law to promote and upgrade the practice of Filipino professionals in connection with the Association of Southeast Asian Nations (ASEAN) integration as required by the ASEAN Mutual Recognition Arrangements, the Philippine Qualifications Framework, and the ASEAN Qualifications Reference Framework (CPD Act, 2016). According to the Professional Regulation Commission (PRC), CPD compliance for Registered Nurses began on January 1, 2018, per Resolution No. 10, s.2017 of the Board of Nursing. By 2018, nurses were required to have 15 CPD credit units, and by 2019, they were expected to have 45 credit units for renewal of their professional licenses (Professional Regulatory Board of Nursing Resolution No. 10, Series of 2017, 2017). After the Covid-19 pandemic challenges, a new guideline for license renewal was released, allowing a gradual increase of CPE units from 15 to 30 to 45 units until the third year before renewal. Numerous questions, confusion and apprehension accompanied the CPD law implementation as it was construed as a heavy burden for nurses (Santos, 2017), thereby highlighting the need to improve the implementation and monitoring of CPD programs. In view of the efforts to avoid commercialization in the conduct of CPD and collaboration with the accredited professional

organization, such as the Philippine Nurses Association (PNA), various Accredited Integrated Professional Organizations were instituted. The CPD Council ensures that CPD programs are implemented properly by the accredited CPD providers. In 2017, only three CPD providers existed in the province of Negros Oriental, where approximately 1,000 nurses were working in the healthcare settings, academe, and non-health care settings, such as the call centers and other companies.

A thorough search for relevant literature yielded limited evidence on the needs and barriers related to CPD, indicating that such concerns were not previously identified in Negros Oriental, Philippines. The CPD providers in Negros Oriental were merely working on general, pre-determined CPD topics that were not tailor fitted to the needs of the local nurses. Thus, the study sought to assess the CPD needs and the perceived barriers to CPD among nurses in Negros Oriental province to guide the local accredited CPD providers in designing, developing and implementing CPD programs for the local nurses.

## Related Literature

There is evidence to suggest that demographic characteristics, continuing education needs, factors influencing participation of nurses in CPD participation, and perceived barriers vary across countries worldwide. In the USA, Continuing Nursing Education (CNE) needs, learning priorities, perceived benefits and barriers, including the motivation for voluntary CNE participation were assessed (Nalle et al., 2010). In the Netherlands, perceptions of the differences in CPD between younger and older nurses (Pool et al., 2013), motives and activities for CPD (Pool et al., 2016), and factors that influence participation of nurses in CPD programs (Brekelmans et al., 2013; Brekelmans et al., 2016) have been examined. In Ghana, the CPE needs of Ghanaian nurses have been identified (Badu-Nyarko, 2015), while in Malaysia, the practice and general needs for CPE of nurses have been described (Chong et al., 2014). In India, an existing professional development program and the impact that a hospital attained through the professional development in nursing have been evaluated (Ramesh & John, 2015), while in Australia, the understanding, practice, CPD needs of nurses and midwives has been determined, and the perceived barriers have been measured (Katsikitis, 2013).

Moreover, the recent findings of a review strongly indicated that the main obstacles to nurses' CPD were insufficient funding and time for CPD activities (Mlambo et al., 2021). These challenges were directly linked to the

structure of the organization (Mlambo et al., 2021). However, only a few studies focusing on CPD needs of nurses and barriers to mandatory CPD participation had been conducted in the last five years (Nalle et al., 2010; Badu-Nyarko, 2015; Chong et al., 2014; Katsikitis, 2013). The CPD needs and barriers are diverse across different geographical locations and may differ from what they were before to what they are now.

The average age of nurses who were respondents in the related studies varied across different countries. The mean age of 42 years old (Brekelmans et al., 2016) and 43 years old (I. A. Pool et al., 2016) were found among the nurses who participated in CPD programs in the Netherlands. On the other hand, the mean age of 33.89 years old was found among nurses who participated in the CPE activities in Malaysia (Chong et al., 2014). Both in Australia and Ghana, a majority of the respondents were from the age group of 40-49 years old. Professional development programs with the shorter time needed were more attractive to older nurses while a longer course duration was needed by younger ones (Badu-Nyarko, 2015). Furthermore, old age was one reason for the lack of interest in CPE (Badu-Nyarko, 2015). There are study findings that suggest differences in CPD between younger and older nurses (Pool et al., 2013). Younger nurses had the tendency to pursue varied developmental activities while the older nurses tended to have a more well-defined focus for professional development (Pool et al., 2013). Nurses between 20-49 years old commonly pursued CPD activities to be better nurses and to find opportunities for careers away from direct patient care (Pool et al., 2013). When computer skills and advanced technologies were involved, older nurses usually needed more time to adjust and master the skills compared to young nurses (Pool et al., 2013).

Moreover, studies have shown a higher number of female respondents than male nurses (Badu-Nyarko, 2015; Brekelmans et al., 2016; Chong et al., 2014; Pool et al., 2013). None of these studies have emphasized the implications of gender-related concerns when it comes to CPD needs and barriers. However, it was found that the limited access to childcare and caring for other dependents were considered as a barrier to CPD engagement for nurses in Australia (Ross et al., 2013). Additionally, women nurses with multiple roles in the family may find it hard to participate in CPD activities considering pressures on leaving their children, husband, or aging parents for attendance in CPD courses or programs (Badu-Nyarko, 2015).

The level of education of nurses varies across geographical locations. In Nalle et al.'s study (2010) many registered nurses (RNs) (46%) in the US reported having pursued graduate studies with masters or doctorate degrees, participants who were nurses in Malaysia had masters or doctorate degrees.

While in Chong et al.'s study (2014) none of the Educational background is essential in pursuing continuing education because the initial training either in psychiatric nursing, general nursing, and anesthesia may contribute to further education (Badu-Nyarko, 2015). Prioritization of CPD needs and perception of CPD barriers may be influenced by nurses' educational background.

In terms of experience, the average length of professional experience of nurses in the recent studies related to CPD of nurses was 19.9 years (Brekelmans et al., 2016) in the Netherlands, 10.2 years (Chong et al., 2014) in Malaysia, and 12.2 years (Pool et al., 2016) in the Netherlands. Majority of the nurses from Australia who were respondents in the study of Katsikitis (2013) had work experience between 10-39 years (63%). Studies have revealed similar results that majority of the nurse respondents have areas of work experience either in the hospital or the clinical (Chong et al., 2014; Katsikitis, 2013) or working as staff nurses (Nalle et al., 2010). However, few nurses were represented from community health clinics (Chong et al., 2014), education, and administration (Katsikitis, 2013; Nalle et al., 2010), and none from research (Katsikitis, 2013). Areas of professional experience such as the Operating Room or other specialty areas, and the requirements of the employer determine the opportunities for CPE available for the nurse professional (Badu-Nyarko, 2015). If there are no available CPD program related to the specialty or area of professional experience, then the opportunity for continuing education in that particular area is limited.

As regards activities, CPD programs include either structured or non-structured activities with learning processes and outcomes. Some of these CPD activities are considered formal learning, nonformal learning, informal learning, self-directed learning, online learning and professional work experience (CPD Act, 2016). Formal learning activities are usually structured and lead to diplomas and qualifications, while nonformal learning may be structured yet more flexible and is acquired in addition or as an alternative to formal learning (CPD Act, 2016). Informal learning refers to daily life learning activities that may contribute to a qualification, such as in-house trainings and seminars and mentoring programs. Self-directed learning are activities that have not undergone CPD accreditation but may be applied for CPD credits by the CPD council.

The major areas of CPD program identified by the Board of Nursing in the Philippines include ethics and legal practices (10 units); professional nursing practice (15 units); leadership and management (10 units); education and research (10 units) and professional, personal, and quality development (15 units) according to the PRC Board of Nursing (BON). Ethics and legal

practices include topics that are associated with the Code of Ethics of nurses and the nursing law and jurisprudence. Some of the specific topics included here are issues and concerns about the CPD Law and the nursing law of the Philippines. The second major area identified by the PRC-BON is the professional nursing practice that include specific topics such as pain assessment and pain management, advances in neurosurgical nursing and emergency nursing practice, trends and updates in blood transfusion, updates in the OB-gynecology nursing care, psychiatric nursing care, pediatrics care, critical care nursing and care for the elderly among many others. The third major area is leadership and management that include some of the specific topics associated with nursing leadership roles and public relations, conflict management, leadership development, change management, delegation, and many others. The fourth major area is education and research that may include specific topics such as research writing and publication, evidenced-based practice, theory-based practice, simulation as an educational teaching strategy, theories of nursing and nursing education related topics. The fifth major area is professional, personal, and quality development that may include specific topics such as a culture of care and patient safety, care and competence in nursing through emotional intelligence, healthy workplace culture, caring competences of nurses, and many others. All these CPD major areas of nursing aim to inculcate

Findings from the study in Australia thus far suggest that the nurses' CPD needs include updates on wound care, advanced life support, conferences and workshops on professional development processes, higher degree studies, leadership and management skills, mentoring, and how to delegate (Katsikitis et al., 2013). Additionally, an earlier study conducted in the USA by Nalle et al. (2010) revealed that leadership and management topic was the top priority learning need of nurses. In 2010, the priority need among US nurses was on the continuing education about leadership and management (28%), evidence-based practice (26%), professional issues (21%), advanced practice (21%), and acute medical-surgical nursing (18%) (Nalle et al., 2010). Moreover, a study in Ghana found that there is a priority need for continuing education on the legal aspect of the practice and health care reform particularly on the topic of HIV/AIDS (Badu-Nyarko, 2015). The study also identified the primary focus for continuing nursing education on the topics associated with emergency, first aid, anesthetics, and critical care nursing. Other important continuing education needs that were identified were technological skills enhancement, nursing as a profession, documentation, and legal issues in nursing (Badu-Nyarko, 2015). The three most important courses that were relevant to Ghanian nurses were public

and community nursing, midwifery, emergency, disaster management and first aid.

Regardless of geographical locations, Ross et al. (2013) have found that the lack of engagement in CPDs is consistent across the literature. Several studies described by Brekelmans et al. (2013) have found that lack of support for CPD programs and activities is a significant barrier to CPD participation. Support from employers, colleagues, professional organizations, nurse administrators, hospital administrators, human resource management, including government agencies is vital to the effectiveness and sustainability of CPD programs for nurses. In undertaking CPD, the barriers that nurses face also include financial constraints, lack of support from the employer, lack of available time, lack of access to technological devices (i.e., computers and internet), lack of technical support at the workplace, limited childcare access, lack of energy and motivation, lack of appropriate and accessible professional education, and generational differences in learning style) (Ross et al., 2013). The barriers to the participation in CPD activities found by Nalle et al. (2010) were program costs, travel, and time outside of work. Other barriers identified by nurses and midwives in Australia have also been measured and revealed that understaffing as well as interference of time outside work were the primary concerns (Katsikitis et al., 2013). Badu-Nyarko (2015) had identified four primary barriers to continuing nursing education in Ghana as financial problems or high cost, information on courses, lack of employer support and staff shortage, and inconvenient time schedules.

Similarly, knowledge on the barriers to CPD participation identified in previous studies may also change. Although understaffing and time interferences are also observed among health care workers and many health care facilities, other concerns such as CPD cost, lack of experts and accredited providers, motivation, registration and documentation system, CPD regulation and monitoring, as well as travel concerns may also be considered. CPD may lead to sustained professional competence of the individual and the organization (Badu-Nyarko, 2015). Thus, CPD barriers perceived by nurses need to be identified, reduced, or eliminated to promote personal and professional growth among nurse professionals.

## Conceptual Framework

The conceptual framework of this study drew from the theories of Adult Learning by Knowles (1973), Experiential Learning by Kolb (2001), and Transformative Learning by Mezirow (1997).

Adult learning theory asserts that the need and the capacity to be self-directed, to use experience and be self-aware of one's readiness to learn, to deal with challenges, while organizing one's learning also increases as the person matures and occurs in professional development (Zepeda et al., 2014). In the professional development of nurses, the experience of undergoing various continuing professional development programs affects their attitudes, knowledge, and skills. Through well-designed and guided experiences, nurses learn to become better at what they do and their knowledge expands that make them better decision-makers, and critical thinkers. Similar to experiential learning, professional development involves a change process within the learner (Girvan et al., 2016). The change process is unique in each learner as the individual draws upon one's own past experiences as basis for engagement with professional development and with the aim of learning something new (Girvan et al., 2016).

Experiential Learning as an emergent process is derived and continuously modified from varied experiences. Some of these experiences could be in the form of lifelong learning activities such as conventions, seminars, workshops, symposia, socio-civic activities, continuing education, masters and doctoral programs, educational tours or trips, and research among many other forms of learning activities.

Mezirow (1997) defined transformative learning as "the process of effecting change in a frame of reference" (p.5). Transformative learning theory encompasses the alteration of an individual's convictions, perspectives, and outlooks. Through critical reflection on assumptions, individuals' perspectives and worldviews can transform leading to new knowledge and changes in action or behavior (McLeod et al., 2015). Furthermore, transformation of perspective happens when there is an emancipatory process of learning through self-reflection and self-thinking (Kitchenham, 2008). Habermas (1971) suggested three domains of learning: (a) technical, which is task-oriented and governed by rules; (b) practical, which involves social norms and understanding what others mean; and (c) emancipatory, which involves self-reflection.

Nurses who engage in CPD programs may have a transformation of their frames of reference through critical reflection. Significant personal transformations can occur when nurses undergo self-reflection during and after they engage in CPD activities and programs. Nurses may expand their existing viewpoints, establish new worldviews, or have a paradigm shift.

Transformational learning theory in professional development provides a foundation for affecting change through the learners' engagement in CPD activities and programs.

Transformational learning is fundamentally focused on liberation or emancipation learning that involves self-reflection. When professional nurses can self-reflect, they can think of their strengths and weaknesses. In self-reflection, professional nurses introspect on their needs for development and improvement. Self-reflection may lead to change in attitude, realization, and recognition of the need to learn more or better. The whole process is transformative and can therefore possibly lead to the development, promotion, and sustainability of CPD.

**Figure 1**
*Conceptual Model*
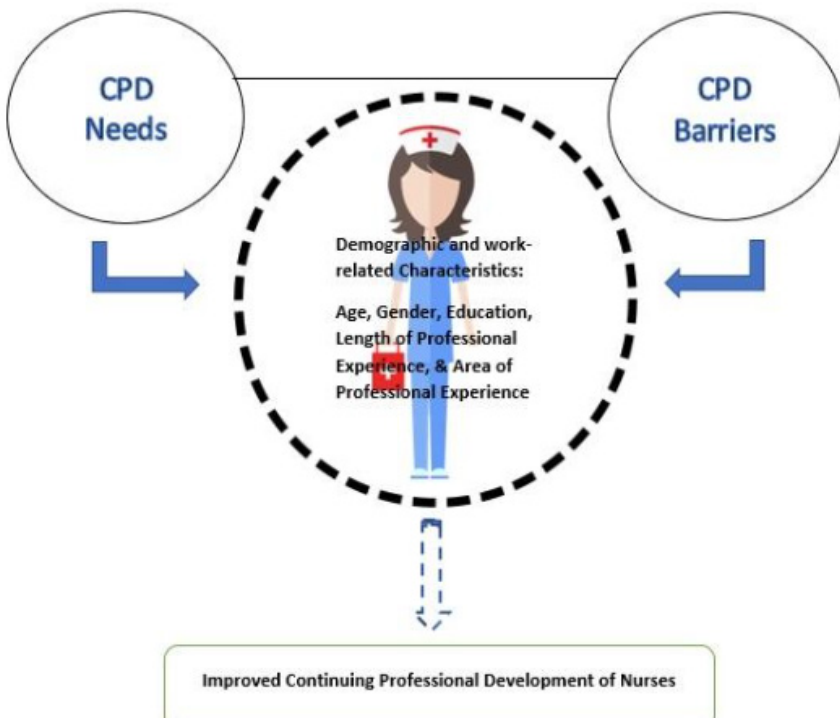


This study aimed to identify the demographic and work-related characteristics of nurses in Negros Oriental, their CPD needs, and their perceived barriers to the participation in CPD programs. As an open system, the nurse's varied demographic and work-related characteristics influence their type of CPD needs or the specific topics they need for lifelong learning activities, as well as the elements they perceive as barriers to their personal and professional growth. Moreover, as an open system, the internal and the external environment influence each other. Identifying these CPD needs

and barriers are significant for the promotion of an effective continuing professional development of nurses. The needs and barriers assessment of CPD may lead to sustainable and well-developed CPD for nurses.

Sustainability and well-designed or tailored CPD programs for nurses indicate an improvement in the Continuing Professional Development of Nurses. This improved CPD for nurses may lead to enhancement in the quality, effectiveness and outcomes of the learning experiences with the goal of advancing nursing knowledge, skills, and delivery of care and management. Essentially this improvement in the CPD experience of nurses may help foster better quality of nursing practice manifested in several ways such as professional growth, enhanced health outcomes, adaptation to changes in policies, technologies and best practices as well as better job satisfaction.

## Research Method

This study applied a descriptive research design to assess the needs and barriers to continuing professional development of nurses in Negros Oriental, Philippines through an online or electronic survey method. Ethics clearance for the study was issued by the University Research Ethics Committee (UREC). The study was conducted in Dumaguete City, Negros Oriental, Philippines where there is approximately 30 healthcare institutions and four nursing schools.

This study utilized purposive sampling method. Respondents of this study included only those who voluntarily participated in the online data collection from September to December 2017. A total of 462 nurses with email addresses in the PNA Negros Oriental database were sent an email informing them about the research study with an attached informed consent. Not all of them successfully received the electronic invitation for recruitment in the study due to inaccurate e-mails provided in the database. A total of sixty-two (62) gave their informed consent and were subsequently given electronic invitations to answer the questionnaire through the Survey Monkey software. However, only 51 responded entirely to the 10-items questionnaire. The high response rate of the e-survey was 87% (54 out of 62), implying that the e-survey was convenient and comfortable to answer. Very few 0.05% (3 out of 54) respondents were not able to completely answer the e-survey which may be due to internet connectivity issues.

The study utilized an electronic-survey questionnaire using the SurveyMonkey software. The first part consisted of the demographic profile and work-related characteristics of the respondents (i.e., age, gender, length

of work experience in nursing, the highest level of education, and area of professional experience/department or specialty area in nursing). The second part consisted of survey questions assessing the CPD needs of nurses in the five major areas of the approved CPD program for nurses (i.e., ethics and legal practice; professional nursing practice; leadership and management; education and research; and professional, personal, and quality development). The electronic survey was accessible to the nurses for three months.

## Results

### Demographic and Work-Related Characteristics

As presented in Table 1, majority of the respondents were early adults with ages between 18-35 years old (76%); 73% of them were female, while 27% were male. Majority of the respondents (71%) had a Bachelor of Science in Nursing degree as their highest level of education, whereas 25% had a Masters Degree, and only 4% had doctorate degrees.

**Table 1**
*Work-related Demographic Profile of Respondents*

| Variable | Frequency | Percentage |
| --- | --- | --- |
| Age Classification | | |
| 18-35 (Early Adult) | 39 | 76 |
| 36-48 (Middle Adult) | 11 | 22 |
| 56-64 (Older Adult) | 1 | 2 |
| 65 and above (Elderly) | 0 | 0 |
| Total | 51 | 100 |
| Gender | | |
| Female | 37 | 73 |
| Male | 14 | 27 |
| Total | 51 | 100 |
| Education | | |
| Baccalaureate | 36 | 71 |
| Masters Degree | 13 | 25 |
| Doctorate Degree | 2 | 3.9 |
| Total | 51 | 100 |

| | | |
|---|---|---|
| Less than 5 years | 21 | 41.2 |
| 5 years or more | 15 | 29.4 |
| Not reported | 15 | 29.4 |
| Total | 51 | 100 |
| **Nursing Experience** | | |
| Medical-Surgical | 15 | 29 |
| Community Health Nursing/Public Health Nursing | 14 | 27 |
| Education/Academe | 11 | 22 |
| Obstetrics & Gynecology Nursing | 9 | 18 |
| Emergency Nursing/ Outpatient Department | 7 | 14 |
| Operating Room Nursing and Surgery | 7 | 14 |
| Pediatrics/ Neonatal Intensive Care Unit | 6 | 12 |
| Intensive Care Unit | 5 | 10 |
| Nursing Service/ Administration | 3 | 6 |
| Others | 11 | 22 |
| **Non-Nursing Experience** | 12 | 24 |
| **TOTAL** | 51 | 100 |

Furthermore, in terms of nursing experience, a majority were exposed to both medical-surgical (29%) and community health or public health nursing (27%), respectively. Other nursing experiences included Aged Care Nursing, NICU, Dialysis, Private Nursing, Mobile Nursing for Weight Reducing Program, and Neuro/Ortho Nursing experience, respectively. There were 2% of the respondents who had non-nursing professional experience, working as a call center agent, non-nursing instructor, executive assistant to the CEO, medical representative, Department of Social Welfare Development employee, customer service representative, banking and

finance employee, medical transcriptionist, and copyeditor, respectively. Moreover, majority of the nurses (41.2%) had less than five years of professional experience, whereas 29.4% had more than five years professional experience.

**CPD Needs of Nurses**

The significant findings of this study are the needs (Table 2) and barriers (Table 3) to CPD of nurses in Negros Oriental, Philippines. This study describes the top five needs for CPD regardless of major area category, which were on Evidence-Based Practice in Nursing (84%), Building and Promoting Healthy Workplace Culture (78%) and Emergency Trauma Care: Saving Lives (78%), Enhancing care and competence in nursing through emotional intelligence (75%), Nursing leadership and management with Emotional Intelligence (73%), and Teaching Emergency Preparedness (71%). The rest of the topics were perceived as a CPD need by less than 67% of the respondents. From the five major areas identified by PRC Board of Nursing, such as Ethics and Legal Practice, Professional Nursing Practice, Leadership and Management, Education and Research, and Professional, Personal and Quality Development, there were suggested CPD topics from PNA that nurses were asked to select as their CPD needs. Table 4 shows the CPD needs of nurses from among the four major CPD areas and sub-categories.

**Table 2**
*CPD Needs of Nurses and Nurses' Demographic and Work-Related Characteristics*

| CPD Needs | Frequency (f) (Total) | Percentage % | Age | | Gender | | Educational Attainment | | Years of Experience | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ethics and Legal Practice | | | (18-35) (f) | (36-64) (f) | Male (f) | Female (f) | BSN (f) | Graduate/ Post-Graduates (f) | <5 yrs (f) | 5yrs or more (f) | Un-reported (f) |
| Nursing Ethics and Health Policy | 30 | 59 | 19 | 11 | 8 | 22 | 21 | 10 | 13 | 10 | 7 |
| Professional Boundaries and Workplace Bullying | 28 | 55 | 23 | 5 | 7 | 21 | 21 | 7 | 11 | 7 | 7 |
| Ethical and Legal Issues in Social Media | 18 | 35 | 13 | 5 | 5 | 13 | 12 | 6 | 8 | 5 | 4 |

| | Frequency (f) (Total) | Percentage % | (18-35) (f) | (36-64) (f) | Male (f) | Female (f) | BSN (f) | Graduate/Post-Graduates (f) | <5 yrs (f) | 5yrs or more (f) | Un-reported (f) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Other subtopics needed: | 18 | 35 | 13 | 5 | 5 | 13 | 12 | 6 | 8 | 5 | 4 |
| Psychological Nursing; Leadership and Management; and Nursing Informatics | 3 | 6 | 2 | 1 | 0 | 2 | 1 | 2 | 1 | 2 | 1 |

| CPD Needs / Professional Nursing Practice | Frequency (f) (Total) | Percentage % | Age | | Gender | | Educational Attainment | | Years of Experience | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (18-35) (f) | (36-64) (f) | Male (f) | Female (f) | BSN (f) | Graduate/Post-Graduates (f) | <5 yrs (f) | 5yrs or more (f) | Un-reported (f) |
| Emergency Trauma Care: Saving Lives | 40 | 78 | 32 | 8 | 12 | 28 | 29 | 11 | 17 | 12 | 11 |
| Emergency Cardiac Guidelines | 33 | 65 | 27 | 6 | 10 | 23 | 24 | 9 | 16 | 11 | 6 |
| Neurosurgical advances and emergencies for the nurses | 33 | 65 | 27 | 6 | 9 | 24 | 25 | 8 | 17 | 8 | 8 |
| Caring for the Stroke survivors | 25 | 49 | 19 | 6 | 8 | 17 | 17 | 7 | 14 | 6 | 5 |
| Coronary Artery Disease: Implications to care | 23 | 45 | 17 | 6 | 7 | 16 | 14 | 9 | 12 | 5 | 6 |
| Transfusion Therapy: Trends and updates in Blood Transfusion | 23 | 45 | 17 | 6 | 5 | 18 | 16 | 7 | 11 | 5 | 7 |

| CPD Needs / Professional Nursing Practice | Frequency (f) (Total) | Percentage % | Age | | Gender | | Educational Attainment | | Years of Experience | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (18-35) (f) | (36-64) (f) | Male (f) | Female (f) | BSN (f) | Graduate/Post-Graduates (f) | <5 yrs (f) | 5yrs or more (f) | Un-reported (f) |
| Pain as 5th Vital Sign: Pain assessment and pain management | 23 | 45 | 17 | 6 | 5 | 18 | 18 | 5 | 12 | 7 | 4 |
| Understanding EKG | 21 | 41 | 17 | 4 | 6 | 15 | 14 | 7 | 10 | 5 | 6 |
| Diabetes Mellitus Type 2: What's the Buzz? | 21 | 41 | 16 | 5 | 5 | 16 | 16 | 5 | 13 | 6 | 2 |

| | Frequency (f) (Total) | Percentage % | Age (18-35) (f) | Age (36-64) (f) | Male (f) | Female (f) | BSN (f) | Graduate/Post-Graduates (f) | <5 yrs (f) | 5yrs or more (f) | Un-reported (f) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Breastfeeding 101: Updates in OB-Gynecology in nursing care | 19 | 37 | 18 | 1 | 3 | 16 | 17 | 2 | 9 | 5 | 5 |
| Bizarre Dimension: The world of psychiatric care nursing | 19 | 37 | 16 | 3 | 4 | 15 | 15 | 4 | 11 | 5 | 3 |
| The Core Impulses: Updates in Neuro-Critical care nursing | 17 | 33 | 14 | 3 | 7 | 10 | 13 | 4 | 12 | 3 | 2 |
| Pediatric Emergency Nursing tracheostomy care | 14 | 27 | 12 | 2 | 4 | 10 | 12 | 2 | 7 | 5 | 2 |
| Other subtopics needed: Leadership and Management | 1 | 2 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 |

| CPD Needs / Leadership and Management | Frequency (f) (Total) | Percentage % | Age (18-35) (f) | (36-64) (f) | Gender Male (f) | Female (f) | Educational Attainment BSN (f) | Graduate/Post-Graduates (f) | Years of Experience <5 yrs (f) | 5yrs or more (f) | Un-reported (f) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Nursing leadership and management with Emotional Intelligence | 37 | 73 | 27 | 10 | 11 | 26 | 26 | 11 | 16 | 11 | 10 |
| Conflict management in nursing leadership | 34 | 67 | 25 | 9 | 9 | 25 | 25 | 9 | 15 | 11 | 8 |
| Enhancing the Nurse Leaders Role in Public Relations | 28 | 55 | 23 | 5 | 6 | 22 | 21 | 7 | 11 | 9 | 8 |
| Leadership development for Clinical nurse managers | 27 | 53 | 21 | 6 | 9 | 18 | 18 | 9 | 13 | 9 | 5 |
| How to train nursing leaders | 22 | 43 | 16 | 6 | 7 | 15 | 15 | 7 | 7 | 8 | 7 |

| CPD Needs | Frequency (f) (Total) | Percentage % | Age | | Gender | | Educational Attainment | | Years of Experience | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Education and Research | | | (18-35) (f) | (36-64) (f) | Male (f) | Female (f) | BSN (f) | Graduate/ Post-Graduates (f) | <5 yrs (f) | 5yrs or more (f) | Un-reported (f) |
| Evidenced-Based Practice in Nursing | 43 | 84 | 33 | 10 | 13 | 30 | 30 | 13 | 18 | 12 | 13 |
| Teaching Emergency Preparedness | 36 | 71 | 28 | 8 | 10 | 26 | 28 | 8 | 17 | 12 | 7 |
| Research Writing and Beyond | 22 | 43 | 15 | 7 | 7 | 15 | 12 | 10 | 9 | 8 | 5 |
| Simulation as a Teaching Strategy | 16 | 31 | 10 | 6 | 4 | 12 | 10 | 6 | 8 | 4 | 4 |

| CPD Needs | Frequency (f) (Total) | Percentage % | Age | | Gender | | Educational Attainment | | Years of Experience | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Professional, Personal & Quality Development | | | (18-35) (f) | (36-64) (f) | Male (f) | Female (f) | BSN (f) | Graduate/ Post-Graduates (f) | <5 yrs (f) | 5yrs or more (f) | Un-reported (f) |
| Building and Promoting Healthy Workplace Culture | 40 | 78 | 30 | 10 | 12 | 28 | 29 | 11 | 20 | 10 | 10 |
| Enhancing Care and Competence in Nursing through Emotional Intelligence | 38 | 75 | 29 | 9 | 12 | 26 | 27 | 11 | 19 | 11 | 8 |
| Creating a Culture of Care and Patient Safety | 31 | 61 | 23 | 8 | 10 | 21 | 21 | 10 | 12 | 9 | 10 |
| Developing the art of clinical supervision | 13 | 25 | 9 | 4 | 5 | 8 | 7 | 6 | 6 | 4 | 3 |

* Multiple responses allowed (n=51)

## Barriers to CPD

The nurses' perceived barriers to pursuing CPD are seen in Table 3. The primary barrier for 92% of the respondents was cost/registration fees. Furthermore, the top two and three perceived barriers to CPD participation of nurses were work schedule (80%), and transportation and travel (63%). Nurses in varied work settings and diverse professional experiences

perceived lack of motivation (12%) and program relevance (10%) as less of
a barrier to pursuing CPD.

**Table 3**
*Perceived Barriers to CPD of Nurses*

| Perceived Barriers | Frequency | Percentage |
|---|---|---|
| Cost/registration fees | 47 | 92 |
| Work schedule | 41 | 80 |
| Transportation and travel | 32 | 63 |
| Lack of support by the employer | 18 | 35 |
| Needs outside work competes with CPD time | 17 | 33 |
| Understaffing/ lack of staff replacement | 15 | 29 |
| Lack of access to information | 11 | 22 |
| Lack of motivation | 6 | 12 |
| Program relevance | 5 | 10 |

* Multiple responses allowed (51)

## Discussion

Similar to a study in India (Ramesh & John, 2015), the respondents
were mostly young nurses. The results differed from a study conducted in
Australia (Katsikitis et al., 2013) and Ghana (Badu-Nyarko, 2015) where a
majority of the respondents were from the age group of 40-49 years old.
Furthermore, the results indicate that the majority of the nurses in Negros
Oriental were early adults with less than five years of work experience (Table
2). Being more adept at the use of technology could be one reason for the
high response among the early adult age group compared to the other age
groups. Given the nature of how the data collection was conducted, young
nurses were more open to the use of technology, indicating greater partici-
pation among these groups.

Most were women, which hence confirms that the nursing profession
is still a female-dominated profession in Negros Oriental region. Similar to

previous studies, the results show a higher number of female respondents than male nurses, which indicate varied challenges to CPD participation, such as childcare concerns for mothers and competing quality time with family. These female role challenges may be translated as a perceived barrier found in this study as "needs outside work competes with CPD time."

This study shows that majority of the respondents with BSN degree as the highest level of education were interested in identifying the needs and barriers to CPD. The results indicate that there were still few nurses in the country who had engaged themselves in pursuing graduate studies or doctorate studies. Aside from the expensive tuition fees, nurses had limited opportunities and financial support for further studies. Due to increased migration trend of nurses, employers may not be keen at investing in graduate studies opportunities for the local nurses who may eventually choose to work abroad, where the salary is more than twice the local nurses' income. Furthermore, the colonial relationship between the Philippines and the United States continue to precipitate nursing education and migration patterns (Brush, 2010). The focus of nursing education in the Philippines was to prepare nurses to be globally competent and be prepared to meet the healthcare needs of developed nations (Brush, 2010). Thus, contributing to the sustained migration of local nurses to the US and other high-income countries and cycle goes on.

Table 3 reflects the most common areas of professional experience in nursing and non-nursing fields that most nurses in Negros Oriental, Philippines were exposed to. Furthermore, all of the hospitals in the province of Negros Oriental had few specialty units which explains why there were fewer nurses who had areas of experience in the ICU, OR, ER, Palliative, Homecare, NICU and Dialysis units.

Moreover, nurses' capacity to contribute their skills in different areas of the hospital may also be the reason for this variety of professional experiences. For example, one respondent had an area of experience in the OPD and the medicine department within three years of professional experience. Another respondent had professional experiences in the ER, OB, and the medicine department within three years of professional nursing practice. A clinical instructor had areas of experience in the medicine department, OR, and community/family health setting for over fourteen years of practice. These varied experiences may have had some influence on the specific topics that nurses need for continuing professional development, the barriers perceived, and the expression of interest in this study.

Furthermore, most nurses had professional experiences in the medical-surgical (29%), community health/public health (27%) and the

academe (22%), where licensing updates prompted the nurses employed in these areas to pursue CPD activities and participate in this study. Some CPD needs that were identified by the respondents such as Evidence-Based Practice in Nursing (84%), Building and Promoting Healthy Workplace Culture (78%), and Emergency Trauma Care: Saving Lives (78%) were influenced by these common areas of professional experiences.

## Continuing Professional Development Needs of Nurses

The top five needs for CPD regardless of major area category include Evidence-Based Practice in Nursing (84%), Building and Promoting Healthy Workplace Culture (78%) and Emergency Trauma Care: Saving Lives (78%), Enhancing care and competence in nursing through emotional intelligence (75%), Nursing leadership and management with Emotional Intelligence (73%), and Teaching Emergency Preparedness (71%). The rest of the topics were perceived as a CPD need by less than 67% of the respondents.

*Evidenced-Based Practice in Nursing* (Education and Research) was mostly chosen as a CPD need for nurses. Contrary to the findings of Nalle et al. (2010) in the online needs assessment of continuing education of nurses in the US that revealed leadership and management as the top priority need, this study showed that the highest interest and need was on topics related to education and research among Negros Oriental nurses, particularly Evidence-Based Practice in Nursing. The results show that nurses in this generation have been acculturated to value research-informed decisions to promote safe, effective, and high-quality care for positive patient outcomes. Nurses need to use validated knowledge to promote standardized care and adaptive care strategies. Furthermore, findings from the most recently published studies on CPD for nurses in the Netherlands suggested that motives influenced how they viewed CPD activities as necessary for engaging in self-directed learning (Brekelmans et al., 2016; Pool et al., 2016). In this study, the mandatory CPD requirement was one external motivation possessed by the respondents to engage in CPD programs, but their needs for CPD varied depending on their demographic and work-related characteristics.

*Building and Promoting Healthy Workplace Culture,* (Professional, Personal and Quality Development) was perceived as a CPD need. All clinical areas, specialty areas, and community health settings had factors contributing to a stressful work environment. In medical-surgical units, for example, the high patient to nurse ratio may lead to increased patient load; specialty units such as the ER and the ICU have high patient acuity;

and community risks involved in the community health nursing areas all contribute to stress. Most of the respondents may have perceived a need to promote a Positive Practice Environment in their respective work settings to limit the effects of stress on them and their patients. This topic is important to nurses since work environments are noted to be a predictor of job satisfaction and modulate the impact of stressors overall.

*Emergency Trauma Care: Saving Lives* (Professional Nursing Practice) is needed due to issues on emergency preparedness across all nursing work settings. Furthermore, this study revealed that nurses needed to know more and develop skills related to emergency care nursing. Most of the respondents perceived the need to advance their knowledge and skills in the field of emergency care nursing where protocols and updates on BLS and ACLS as well as neurosurgical emergency care are much needed today. Nurses who may be working in the hospitals and public health or even in non-nursing fields are interested in learning and updating themselves regarding emergency preparedness due to experiences of disasters, emergency scenarios, and critical situations in their respective work environments.

*Enhancing care and competence in nursing through emotional intelligence,* (Professional, Personal & Quality Development) was also needed by nurses. Emotional Intelligence (EI) captured the interest of most nurses in this study. Similarly, the empirical findings of the study conducted by Mshellia, Malachy, Sabo, and Abu-Abdissamad (2016) showed that there was a significant relationship between EI and contextual performance of nurses. Development of EI competencies such as empathy, self-management, social skills and self-awareness (Mshellia et al., 2016) is significant in enhancing the professional behavior of nurses to promote quality care performance.

*Nursing leadership and management with Emotional Intelligence* (Leadership and Management) was perceived as a CPD need. Studies have described EI as having the ability to determine emotions and use evidence to guide decisions and nursing actions (Tyczkowski et al., 2015). How EI in nurse leaders bring out the best among nurses, drive positivity, and promote meaningful connectedness are some areas where nurses in the Philippines need further development. Most of the respondents who chose the nursing leadership and management topics as their CPD needs may have perceived the need for better understanding of EI, conflict management, role in public relations, and clinical management in their career. Amidst a rapid technological advancement in health care, the nursing profession is increasingly focused more on human caring and human interactions where integration of leadership and management concepts with emotional intelligence require better understanding and applications.

*Teaching Emergency Preparedness* (Education and Research) was also considered as a CPD need by nurses. The natural and human-made disasters continue to increase worldwide, and nurses take significant roles in the health workforce that respond to emergencies, calamities, and disasters (Abdelalim & Ibrahim, 2014). Another study from the Philippines revealed that nurses lacked sufficient knowledge on disaster preparedness and recommended the provision of continuing education on emergency communication systems, technologies during disasters, psychological and sociological impact, emergency information resources, legal and ethical principles involved (Rabaya et al., 2016), which can all be covered in the CPD programs for nurses. Furthermore, the climate change and impact of this change that we have experienced and will continue to experience have influenced nurses to be more concerned with disaster preparedness. Having experienced disasters that have occurred in the Philippines and their grave effects on the lives of people and children, nurses have become more conscious of the impact of disasters and climate change to the country. Teaching emergency and disaster preparedness need to be reinforced through CPD as these were not previously taught in the BSN program.

As regards CPD topics, there were only 43% who found the specific CPD topic, Research Writing and Beyond, as a CPD need. The lowest need was on Simulation as a Teaching Strategy, with only 31% who found this topic as a CPD need. Only a few nurses were interested in Nursing Research Writing and Simulation as a teaching strategy since these topics were emphasized and utilized mostly in the academic settings. Only 22% of the respondents worked in the academe or specialized in nursing education. However, it is interesting to note that there were respondents who were not in the academe but were also interested in learning more about nursing research writing and simulations. Therefore, there appears to be a need to increase information, emphasis, and utilization of nursing research and simulations in non-academic settings to encourage nurses to engage in these areas. The results further showed a need to explore possible theory-practice gaps due to lack of information and application of these topics in practice settings.

In this study, the results indicate the need for professional development on various topics to improve nursing practice, workplace culture, emergency care, care and competence in nursing through EI, nursing leadership and management with EI, and emergency preparedness. CPD initiatives provide nurses with opportunities to enhance their skills, knowledge, and practice through ongoing learning experiences (Mlambo et al., 2021). Engaging in CPD enables nurses to think critically by exposing them to new information,

evidence-based practices, and innovative approaches to patient care (Amir et al., 2023). Additionally, CPD empowers nurses to make sound decisions by equipping them with the latest advancements in healthcare, fostering a deeper understanding of complex medical scenarios, and promoting evidence-based decision-making (Vázquez-Calatayud et al., 2021).

## Barriers to CPD among Nurses

In this study, the major barrier for 92% of the respondents is cost/registration fees. Financial constraints and program costs had been noted as a significant barrier to CPD due to lack of funding and employer support (Badu-Nyarko, 2015; Brekelmans et al., 2013; Ross et al., 2013; Nalle et al., 2010). Nurses in the Philippines mostly use their money to pay for registration fees for CPD programs. This had become a burden, considering that nurses in the Philippines are underpaid, earning between Php 8,000/month to Php 25,000/month basic pay.  In the local labor market, the entry-level registered nurse receives monthly pay of Php 8,000- Php 13, 500 only (Department of Labor and Employment, n.d.). Nurses employed in the hospitals have an average compensation of Php 9,757/month, while those working in the government have an average salary of Php 13,500 and those in the private institutions usually have an average rate of Php 10,000/month (Department of Labor and Employment, n.d.).

Republic Act No. 9173 (Philippine Nursing Act of 2002), Article VII, Section 32 states explicitly:

> In order to enhance the general welfare, commitment to service and professionalism of nurses the minimum base pay of nurses working in the public health institutions shall not be lower than salary grade 15 prescribes under Republic Act No. 6758, otherwise known as the 'Compensation and Classification Act of 1989': Provided, That for nurses working in local government units, adjustments to their salaries shall be in accordance with Section 10 of the said law. (Republic Act 9173, 2002, p.7)

According to the salary grade specification under the Salary Standardization Law, Salary grade 15 is equivalent to Php 29,010.00.  Nurses working in public health institutions should be paid not lower than this rate. However, the RA 7305 or the Magna Carta of Public Health Workers and the RA 9173 or the Philippine Nursing Act, stipulating the starting pay of nurses

in the Philippines, had not been appropriately implemented (Badilla, 2016). With the meager salary of less than the required basic pay, nurses' priority expenditures are intended for basic needs such as food, shelter, clothing, and education. CPD registration fees and associated costs such as travel or transportation are already a financial burden. Organizations employing nurses should provide professional development activities or programs such as in-house training without cost. As motivation for CPD participation, the most crucial support from an employer or organization is financial support in the form of study leave with pay, supplementation, attractive salary, and career promotion (Badu-Nyarko, 2015) with higher pay. An example of support from the government could be allowing CPD fees to be tax deductible so that nurses can get some financial benefits from improving their credentials and professional growth.

Work schedule (80%) was another significant barrier to CPD. This perceived barrier echoes the concerns pointed out in other studies (Katsikitis, 2013; Badu-Nyarko, 2015). Some nurse managers could not allow some of their staff nurses to attend CPD activities because of lack of staff replacement and due to their 8-hours shift schedule that had already been planned out. There is lack of a mechanism for staff scheduling that prioritizes some staff nurses whose professional licenses are about to expire. There is also lack of free in-house training or paid in-house trainings that offer CPD credits because most of the employers or organizations employing nurses in the province are not CPD accredited providers. Moreover, nurse migration abroad also contributes to the understaffing and lack of staff replacement. Nurse managers and administrators therefore need to be supportive of their nurse employees. As indicated in the CPD Law of 2016, Article III, Section 13, "All concerned government agencies and private firms and organizations employing professionals shall include the CPD as part of their human resource development plan and program." Perceiving the CPD participation as a joint effort between nurses themselves and their employer allows nurses to value the benefits of ongoing learning and participation in CPD opportunities (Katsikitis et al., 2013). However, this value of CPD engagement needs continued support, better recognition both by the organizations, and efficient regulatory certifications (Katsikitis et al., 2013). One way to address the barrier on work schedule is to offer online CPD programs.

Other significant barriers to CPD participation of our nurses in the Philippines that need to be considered were transportation and travel (63%), lack of support by the employer (35%), needs outside work competes with CPD time (33%), understaffing/lack of staff replacement (29%), and lack

of access to information (22%). These confirmed the findings of previous studies conducted in other countries. Nurses in varied work settings and diverse professional experiences perceived lack of motivation (12%) and program relevance (10%) as less of a barrier to pursuing CPD.

The results indicate that the nurses were willing to pursue professional and personal development, but they needed to be well supported financially, administratively, socio-politically and to enhance their interests for CPD personally. This therefore suggests a need to reevaluate some parts of the CPD Law and Nursing Law, including their implementation, to make them more equitable, fair, and meaningful to our nurse professionals. As stated by Bush (2010) "Tens of thousands of nurses, essentially trained to immigrate over the 21 years of Marcos' rule (1965-1986), were drawn to overseas work opportunities in an unprecedented 'brain drain' wave" (p.1576) and this brain drain will continue to persist. Nurses would want to seek for jobs that provide not only economic benefits but also address social, educational, political, leadership/motivational factors in a profession. The motivational factors according to Herzberg's Two-Factor Theory include achievement, recognition, the work itself, responsibility, advancement and the possibility for growth (Alshmemri et al., 2017).

## Conclusion

This study describes the needs and perceived barriers to Continuing Professional Development (CPD) participation among 51 nurses in Negros Oriental. It sought to assess the CPD needs and the perceived barriers to CPD among nurses in Negros Oriental province, to guide the local accredited CPD providers in designing, developing, and implementing CPD programs for the local nurses.

The demographic characteristics of Nurses in Negros Oriental, Philippines indicated that majority of the respondents had less than 5 years work experience, were mostly female, and had BSN degree as their highest level of education. This corresponded with the majority of respondents belonging to the age classification of Early Adult (18-35 years old), thereby indicating that majority of the nursing workforce were composed of young adult nurses.

In this study, the results indicated the need for professional development programs on various topics to improve nursing practice, workplace culture, emergency care, care and competence in nursing through emotional intelligence, nursing leadership and management with emotional intelligence, and emergency preparedness. Furthermore, the results

indicated that the nurses were willing to pursue professional and personal development, but they needed financial, administrative, and socio-political support. They also needed to enhance their interests in CPD personally. Through engagement with CPD, nurses can enhance their skills by participating in training workshops, conferences, and seminars that help address the evolving healthcare environment and technological advancements.

An improvement to the implementation of the CPD Law and the Nursing Law will undoubtedly help reduce the perceived barriers of nurses to CPD engagement. These perceived barriers included cost/registration fees, work schedule, transportation and travel, lack of support by the employer, needs outside work competes with CPD time, understaffing/lack of staff replacement, lack of access to information, lack of motivation, and lack of program relevance.

Knowledge of the needs and barriers to CPD will help government institutions, private firms, and professional organizations prepare for a nurses' development plan and programs. A well-designed CPD program plan may lead to a sustainable professional enhancement program that is relevant to the nursing workforce and is translatable to quality healthcare service, quality patient care delivery and competence of nurses. Furthermore, it is essential to promote self-directed learning, experiential learning, and transformational learning to develop, promote, and sustain the personal and professional development of nurses because mandating the CPD may not be enough to sustain a lifelong commitment to professional development. Most significantly, a well-tailored CPD program based on the knowledge of the needs and barriers enable nurses to stay updated with the latest advancements in healthcare, thereby promoting high quality patient care, improvement in health outcomes, and contribute to functional multidisciplinary healthcare teams.

Limitations of the study included a limited scope wherein the study only assessed the topics needed for CPD and the perceived barriers to CPD. This study did not examine the factors that influenced the respondents' participation in CPD activities.

It is recommended that the results of the study be used by nursing professional organizations as important considerations in assessing nurses' professional needs towards career development and professional growth, positive practice environment, and developmental programs for nurses; helping address the perceived barriers; and guiding prioritization and programming of the CPDs by CPD providers in Negros Oriental, Philippines. Furthermore, future research should include more nurse participants in the

region and other regions and investigate how to reduce CPD barriers or the factors that influence participation in CPD programs.

## Acknowledgements

## References

Abdelalim, F., & Ibrahim, A. (2014). Nurses Knowledge, attitudes, practices and familiarity regarding disaster and emergency preparedness – Saudi Arabia. *American Journal of Nursing Science, 3*(2), 18–25. https://doi.org/10.11648/j.ajns.20140302.12

Amir, H., Permatananda, PANK., Cahyani, D. D., Langelo, W., Rosita, R., Sajodin, S., Noprianty, R., Astuti, A., Suhari, S., Wahyuningsih, S., Kusumawati, PD., Swamilaksita, PD., Sudarman, S., & Syaiful, S. (2023). Enhancing skill conceptualization, critical thinking, and nursing knowledge through reflective case discussions: A systematic review. *Journal of Medical Life, 16*(6), 851-855. https://doi.org/10.25122/jml-2023-0042

Alshmemri, M., Shahwan-Akl, L., & Maude, P. (2017). Herzberg's two-factor theory. Life *Science Journal, 14*(5), 12–16. https://doi.org/10.7537/marslsj140517.03.Keywords

Badilla, N. C. (2016, May 15). 200,000 registered nurses are jobless. *The Manila Times.* Retrieved from http://www.manilatimes.net/200000-registered-nurses-are-jobless/262211/

Badu-Nyarko, S. (2015). Survey of continuing professional education of nurses in Ghana. *International Journal of Education Studies, 02*(02), 71–81.

Brekelmans, G., Maassen, S., Poell, R. F., Weststrate, J., & Geurdes, E. (2016). Factors influencing nurse participation in continuing professional development activities: Survey results from theNetherlands. *Nurse Education Today, 40*, 13–19. https://doi.org/10.1016/j.nedt.2016.01.028

Brekelmans, G., Poell, R. F., & van Wijk, K. (2013). Factors influencing continuing professional development: A Delphi study among nursing experts. *European Journal of Training and Development, 37*(3), 313–325. https://doi.org/10.1108/03090591311312769

Brush, B. L. (2010). The potent lever toil: Nursing development and exportation in the postcolonial Philippines. *American Journal of Public Health, 100*(9), 1572–1581. https://doi.org/10.2105/AJPH.2009.181222

Chong, M. C., Francis, K., Cooper, S., & Abdullah, K. L. (2014). Current Continuing professional education practice among Malaysian Nurses. *Nursing Research and Practice,* 2014, 1–6. https://doi.org/10.1155/2014/126748

Continuing Professional Development Act of 2016, RA 10912 § 3 & § 13 (2016). Retrieved from https://www.senate.gov.ph/republic_acts/ra%2010912.pdf

Department of Labor and Employment. (n.d.). *Nurse*. http://ble.dole.gov.ph/index.php/nurse

Girvan, C., Conneely, C., & Tangney, B. (2016). Extending experiential learning in teacher professional development. *Teaching and Teacher Education, 58,* 129–139. https://doi.org/10.1016/j.tate.2016.04.009

Habermas, J. (1971). *Knowledge and human interests.* Beacon Press.

Katsikitis, M. (2013). Continuing professional development in nursing in Australia: Current awareness, practice and future directions. *Contemporary Nurse, 45*(1), 33–45.

Kitchenham, A. (2008). The evolution of John Mezirow's transformative learning theory. *Journal of Transformative Education, 6*(2), 104-123. https://doi.org/10.1177/1541344608322678

Knowles, M. (1973). *The adult learner: A neglected species.* Gulf Publishing Company. http://files.eric.ed.gov/fulltext/ED084368.pdf

Kolb, D. A., Boyatzis, R., & Mainemelis, C. (2001). Experiential learning theory: Previous research and new directions. In R. Sternberg & L. Zhang (Eds.), *Perspectives on cognitive learning, and thinking styles* (pp. 228-247). Erlbaum. http://www.d.umn.edu/~kgilbert/educ5165-731/Readings/experiential-learning-theory.pdf

McLeod, G. A., Barr, J., & Welch, A. (2015). Best practice for teaching and learning strategies to facilitate student reflection in Pre-registration health professional education: An integrative review. *Creative Education, 6*(March), 440–454. https://doi.org/10.4236/ce.2015.64044

Mezirow, J. (1997). Transformative learning. *New Directions for Adult and Continuing Education, 74*, 5-12. http://cmapsconverted.ihmc.us/rid=1MCY1CBS9-W00F4X-15W8/Transformative-Learning-Mezirow-1997.pdf

Mlambo, M., Silén, C., & McGrath, C. (2021). Lifelong learning and nurses' continuing professional development: A metasynthesis of the literature. *BMC Nursing, 20*(1), 62. https://doi.org/10.1186/s12912-021-00579-2

Mshellia, P. S., Malachy, O. D. Y., Sabo, B., & Abu-Abdissamad, A. M. (2016). Emotional intelligence and contextual performance among nursing professionals in Jos Metropolis, Plateau State, Nigeria. *Journal of Good Governance and Sustainable Development in Africa (JGGSDA), 3*(1), 19–33.

Nalle, M. A., Wyatt, T. H., & Myers, C. R. (2010). Continuing education needs of nurses in a voluntary continuing nursing education state. *The Journal of Continuing Education in Nursing, 41*(3), 107–115. https://doi.org/10.3928/00220124-20100224-03

Pool, I. A., Poell, R. F., Berings, Marjolijn, G. M. C., & Cate, O. ten. (2016). Motives and activities for continuing professional development : An exploration of their relationships. *Nurse Education Today, January.* https://doi.org/10.1016/j.nedt.2016.01.004

Pool, I., Poell, R., & ten Cate, O. (2013). Nurses' and managers' perceptions of continuing professional development for older and younger nurses: A focus group study. *International Journal of Nursing Studies, 50*(1), 34–43. https://doi.org/10.1016/j.ijnurstu.2012.08.009

Professional Regulatory Board of Nursing Resolution No. 10, Series of 2017. (2017). *Implementation of the continuing professional development requirements for the renewal of the professional identification cards of nurses.* http://prc.gov.ph/uploaded/documents/2017-10_JMS.pdf

Rabaya, A., Mabulay, R., Mabulay, A., & Mabulay, B. (2016). Nurses' familiarity on disaster preparedness in hospitals. *Philippine Journal of Nursing, 86*(2), 50-56.

Ramesh, N., & John, D. (2015). Does Investing in Professional development coaching for nurses help contribute to their better functioning in the hospital? *National Journal of Community Medicine, 6*(3), 379–384.

Republic Act 9173. (2002). *Philippine Nursing Act of 2002.* http://www.officialgazette.gov.ph/2002/10/21/republic-act-no-9173/

Ross, K., Barr, J., & Stevens, J. (2013). Mandatory continuing professional development requirements: What does this mean for Australian nurses. *BMC Nursing, 12*(9), 1–7. https://doi.org/10.1186/1472-6955-12-9

Santos, T. G. (2017, November 13). Nurses slam new law on license renewal. *Philippine Daily Inquirer*. http://newsinfo.inquirer.net/944924/nurses-slam-new-law-on-license-renewal

Tyczkowski, B., Vandenhouten, C., Reilly, J., Bansal, G., Kubsch, S. M., & Jakkola, R. (2015). Emotional intelligence (ei) and nursing leadership styles among nurse managers. *Nursing Administration Quarterly, 39*(2), 172–180. https://doi.org/10.1097/NAQ.0000000000000094

Udani, Z.A. (2002). Continuing professional education: Training and developing Filipino professionals amidst globalization. *Philippine APEC Study Center Network Discussion Paper.* https://pascn.pids.gov.ph/files/Discussions%20Papers/2002/2002-02.pdf

Vázquez-Calatayud, M., Errasti-Ibarrondo, B., & Choperena, A. (2021). Nurses' continuing professional development: A systematic literature review. *Nurse Education in Practice, 50*, 102963. https://doi.org/10.1016/j.nepr.2020.102963

Zepeda, S. J., Parylo, O., & Bengtson, E. (2013). Analyzing principal professional development practices through the lens of adult learning theory. *Professional Development in Education, 40*(2), 295–315. doi:10.1080/19415257.2013.821667

# Navigating Political Dynamics and Health Inequities: Challenges to Precision Medicine in a Rural Health Setting

Kim G. Sarong, Ph.D.
*Institute of Clinical Laboratory Sciences*
*Silliman University, Dumaguete City*

## Abstract

In this era of dramatic, rampant, and incessant political change, predictions about the future can no longer be based either on conventional wisdom or historical precedent. We are, after all, in the middle of a paradigm shift that is shredding prognosticators and their prognostications with voraciousness – especially in the acquisition and distribution of health services to the consumers. Health status has improved dramatically in the Philippines over the last 40 years: infant mortality has dropped by two-thirds, the prevalence of communicable diseases has fallen and life expectancy has increased to over 70 years. However, considerable inequities in health care access and outcomes between socio-economic groups remain. Thus, this paper primarily sought to investigate and determine the barricades and challenges towards the attainment of precision medicine in small-scale locale study. This qualitative study utilized small group discussions, key informant interviews, and review of secondary data. Thematic and case analysis were utilized by the researcher to analyze data as deemed and provided by the respondents. Results were based on political history and dynamics, municipal health budget, implementation of programs via the municipal or rural health unit and linkage between the municipal health sector and local government unit. Overall, delivery of health services to the public was being compromised since health workers were less knowledgeable, undertrained, and underpaid and received minimal budget allotment, consequently leading to an imprecise delivery of health goods.

**Keywords:** health financing, political dynamics, health services

## Introduction

Recent political and economic developments and associated changes in the practice and delivery of health and social care have led managers and professionals to recognize the importance and links between problem

solving and decision-making skills. In particular, assessing the impact of political, economic, socio-cultural, environmental and other external influences upon health care policy, proposals and organizational programs is becoming a recognizable stage of health service strategic development and planning mechanisms. Undertaking this form of strategic analysis therefore is to diagnose the key issues that the organization needs to address (Iles & Sutherland, 2001).

Despite the importance of political institutions in shaping the social environment, the causal impact of politics on health and its inequities have been understudied (Beckfield & Krieger,  2009;  Navarro et al.,  2006 ). Even when considered, the political system is generally not credited with a direct impact on health care access or is seen to have an indirect influence on utilization via its effect on economic conditions (WHO, 2007). Furthermore, studies tend to focus on formal political institutions at the local level, in particular, in a municipal arena.

This article argues that political institutions can have an important impact at the individual level through informal practices. Focusing on the municipality of Ayungon, the researcher utilized key informant interviews, focus group discussion and secondary date gathering to show that political organizations use access to health care as a strategy to gain and reward support, leading to potentially detrimental effects on the most vulnerable and exacerbating health disparities.

This study primarily aimed to seek the influence of political dynamics in relation to the health care delivery system in the municipality of Ayungon, Negros Oriental. Specifically, this study aimed     to accomplish the following:

1. study the political history and structure of the municipality;
2. identify health-related programs mentioned by the key informants;
3. investigate the linkage between the health sector and the local government unit (LGU); and
4. propose recommendations for future program proposal attempts.

**Related Studies**

## Political Institutions and Health Inequities

Although health is an important aspect of social policy and is highly valued by people around the world, there is only a limited literature on the relationship between politics and population health (Beckfield & Krieger, 2009). Most studies come from the social science literature on "welfare

states," which tends to focus on advanced, industrialized countries (Bambra, 2007 ; Esping-Andersen, 1990 ). In general, studies in this vein contend that political institutions affect population health and health inequities only through shaping welfare policies and determining the resources devoted to social services. Nevertheless, the literature is far from reaching a definitive conclusion (Cavelaars et al., 1994).

## Health Reform as Shifting the Balance

In a recent paper on public health, Sterman (2006) explains the sources of policy resistance: We seek to bring the state of the system in line with our goals. Our actions alter the environment but policy resistance arises when we fail to account for the so-called 'side effects' of our actions, the responses of other agents in the system (who may have conflicting goals) and the unanticipated consequences of these responses, the ways in which experience shapes our goals, and the time delays often present in these feedbacks.

In health reform, policy resistance is often referred to as difficulty in "shifting the balance. Policy changes can be in response to shifts in real or perceived threats to a system which is considered unresponsive or built for past challenges. Several significant long-term transitions have been described, including the epidemiological transition from acute epidemics to chronic disease and the demographic transition from younger to older patients based on dramatic improvements in life expectancy and subsequent reduction in fertility rate in developed countries. Another key shift has been in the perceived role of government, shifting from maintaining the welfare state to incenting individuals to solve their own societal problems, the dominance of democratic capitalism around the world.

## Policy and Health Reform Implications

Health policy reform is dominated by the scope of its political acceptability and fashioning a single-issue constituency with the capacity for collective action. There is a plethora of quick fix "fad" changes, which are usually couched in vague and ambiguous language, often to hide the actual details of who receives, who pays for what, and who decides. Many solutions are simplistic and wrong, with excessive distortion and manipulation to maintain and protect vested interest groups. One commentator described the escalating conflict between regulation and commercial incentives and practices as "dissolving like acid the cultural values of public service and

social solidarity " (McDonell and Dewdney, 2006).

## Impact of the Political Climate on the Quality of Healthcare Services

The impact of the political climate or landscape on the quality of healthcare services in communities or Local Government Units (LGUs) has been widely studied and documented in the literature. Political factors, such as governance structures, resource allocation decisions, and leadership priorities, play a crucial role in shaping the accessibility, affordability, and effectiveness of healthcare delivery.

Research by Sheikh et al. (2017) highlights the significance of political will and commitment in driving healthcare reforms and improving health outcomes. The study underscores the importance of strong leadership and governance frameworks at the local level to address systemic challenges and inequities in healthcare access. Similarly, a study by Bossert (1998) emphasizes the influence of political factors on health policy formulation and implementation, highlighting the need for participatory decision-making processes and accountability mechanisms to ensure the effective delivery of healthcare services.

Furthermore, studies have examined the impact of political instability and conflict on healthcare provision in conflict-affected regions. Research by Patel et al. (2015) explores how political violence and insecurity disrupt healthcare delivery systems, leading to gaps in service provision and exacerbating health disparities among vulnerable populations. The study underscores the importance of addressing political instability and conflict resolution mechanisms to safeguard healthcare access and mitigate adverse health outcomes in conflict-affected areas.

Moreover, the role of political patronage and clientelism in healthcare service delivery has been a subject of investigation in the literature. Studies by Berman (1998) and Savedoff and Hussmann (2005) have examined how political patronage networks influence resource allocation decisions and undermine the equitable distribution of healthcare services. These studies have emphasized the need for transparent and accountable governance structures to mitigate the negative impacts of political patronage on healthcare provision.

Additionally, research has explored the intersection of politics and health financing, highlighting how political decisions on budget allocation and expenditure priorities affect healthcare service delivery. Studies by Mills et al. (2002) and McIntyre et al. (2006) have analyzed the implications of political economy factors on health financing policies, emphasizing the

importance of evidence-based decision-making and stakeholder engagement in shaping health financing reforms.

The literatures underscore the multifaceted impact of the political climate or landscape on the quality of healthcare services in communities or LGUs. Political will, governance structures, conflict resolution mechanisms, patronage networks, and health financing policies all play pivotal roles in shaping healthcare access, affordability, and effectiveness. Addressing political determinants of health requires a holistic approach that emphasizes transparency, accountability, and participatory decision-making processes to ensure equitable healthcare provision and improve health outcomes for all.

## Conflicts amongst World Views

Given the obvious difficulty of understanding the complex interrelationships among the components and institutions of healthcare, it is little wonder that there is policy resistance and gridlock. There are fundamental conflicting goals, for example, with expenditure. As an industry and profession, more demand and more expenditure should translate into more profit and salaries. As a government public good more expenditure and demand implies more government liabilities and taxation subsidies. Therefore, for prosperity, the government subsidizes healthcare as an industry, then tries to find ways not to pay for it as a public good for its own citizens. Also for general wellbeing, rather than prosperity, the state needs to intervene to maintain social cohesion and reduce inequity. Here are three conflicting goals within the one institution. Cost shifting and blame shifting workarounds consume more effort than attempts to fundamentally change structures and policies at the systems level. It should also be apparent that due to its size and complexity, there is a fundamental loss of strategic control of the health system, and there is no single locus or control mechanism in operation; indeed there are several conflicting and inconsistent control mechanisms that constantly interfere with each other, operating at different levels of aggregation, from the overall system level to individual health behaviours (McDonell & Dewdney, 2006).

## Healthcare System in the Philippines (adopted from Department of Health)

### Health Financing

The health financing system in the country is complex as it involves different layers of financial sources, regulatory bodies, and health service providers. Figure 1 shows the financing flows for health as to sources and uses. In general, there are four main sources of financing: (1) national and local government, (2) insurance (government and private), (3) user fees/out of pocket and (4) donors.

**Figure 1**
*Health Financing in the Philippines*
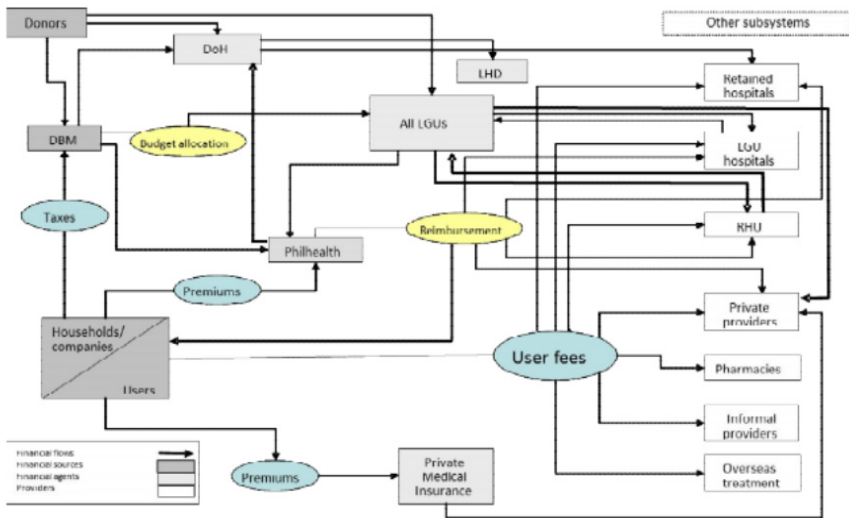


Source: HSRA Monograph on Health Care Financing, Department of Health

The Philippine health care system has rapidly evolved with many challenges through time. Health service delivery was devolved to the Local Government Units (LGUs) in 1991, and for many reasons, it has not completely surmounted the fragmentation issue. Health human resource struggles with the problems of underemployment, scarcity, and skewed distribution. There is a strong involvement of the private sector comprising 50% of the health system, but regulatory functions of the government have yet to be fully maximized.

## Health Facilities

Health facilities in the Philippines include government hospitals, private hospitals and primary health care facilities. Hospitals are classified based on ownership as public or private hospitals. In the Philippines, around 40 percent of hospitals are public (Department of Health, 2009). Out of 721 public hospitals, 70 are managed by the DOH while the remaining hospitals are managed by LGUs and other national government agencies (Department of Health, 2009). Both public and private hospitals can also be classified by the service capability (see DOH AO 2005-0029). A new classification and licensing system will soon be adopted to respond to the capacity gaps of existing health facilities in all levels. At present, Level-1 hospitals account for almost 56 percent of the total number of hospitals (Department of Health, 2009; Lavado, 2010) which have very limited capacity, comparable only to infirmaries.

## Health Human Resource

The health human resources are the main drivers of the health care system and are essential for the efficient management and operation of the public health system. They are the health educators and providers of health services. The Philippines has a huge human reservoir for health (see Table 1). However, they are unevenly distributed in the country. Most are concentrated in urban areas such as Metro Manila and other cities.

**Table 1**
*Number of Government Health Workers, Philippines, in 2008*

| Area | Number of Government Health Workers | | | |
|---|---|---|---|---|
| | Doctors | Dentists | Nurses | Midwives |
| Philippines | 2838 | 1891 | 4576 | 17437 |
| NCR | 590 | 498 | 723 | 1135 |
| CAR | 89 | 40 | 131 | 637 |
| I | 159 | 105 | 259 | 1014 |
| II | 97 | 65 | 196 | 839 |
| III | 278 | 176 | 441 | 1662 |
| IVA | 238 | 189 | 472 | 1818 |
| IVB | 83 | 68 | 142 | 555 |
| V | 157 | 85 | 273 | 1072 |
| VI | 234 | 123 | 401 | 1775 |
| VII | 177 | 117 | 328 | 1534 |
| VIII | 155 | 94 | 201 | 904 |
| IX | 100 | 44 | 203 | 697 |
| X | 138 | 74 | 241 | 1052 |
| XI | 75 | 69 | 127 | 743 |
| XII | 113 | 56 | 194 | 878 |
| ARMM | 76 | 30 | 130 | 507 |
| CARAGA | 79 | 58 | 114 | 615 |

## Satisfaction with Health Facilities

Based on a survey by the Social Weather Station in 2006, majority of Filipinos specifically the low income households prefer to seek treatment in a government hospital if a family member needs confinement. Affordability is the main reason for going to a government medical facility, while excellent service is the main reason for going to a private medical facility (Department of Health, 2010). The net satisfaction with services given by government hospitals has slightly improved from +30 in 2005 to +37 in 2006. Excellent service and affordability are the main reasons for being satisfied whereas poor service is the main reason for being dissatisfied with the services given by government hospitals (Social Weather Stations, 2006).

## Health Reform Initiatives in the Philippines

Health reforms in the Philippines build upon the lessons and experiences from the past major health reform initiatives undertaken in the last 30 years. The adoption of primary health care (PHC) approach in 1979 promoted participatory management of the local health care system. The goal was to achieve health for all Filipinos by the year 2000. It emphasized the delivery of eight essential elements of health care, including the prevention and control of prevalent health problems; the promotion of adequate food supply and proper nutrition; basic sanitation and adequate supply of water; maternal and child care; immunization; prevention and control of endemic diseases; appropriate treatment and control of common diseases; and provision of essential drugs. To implement PHC, EO 851 was issued in 1983 integrating public health and hospital services (World Health Organization, 2011).

## Theoretical Foundation and Previous Studies

In a study conducted by Chen and Melani (2012) at Lebanon, they concluded that individuals with higher political activism had better access to health services than others. Informal, micro-level political institutions can have an important impact on health care access and utilization, with potentially detrimental effects on the least politically connected. A truly universal health care system that provides access based on medical need rather than political affiliation was      needed to help to alleviate growing health disparities in the Lebanese population.

In Mexico, for example, a study by González-Rossetti and Bossert (2000) found that local political structures and the relationships between health officials and political leaders substantially affected the allocation and efficiency of health services. Those with stronger political ties or activism were more likely to receive better health care services. In Nigeria, Olatunji (2013) noted that political patronage played a significant role in the distribution of health resources, where health interventions were often used as tools for political gain rather than for addressing the population's health needs comprehensively.

Moreover, in a review of health systems in Sub-Saharan Africa, Anyangwe and Mtonga (2007) highlighted that political instability and poor governance often led to disparities in health service delivery, with rural and politically marginalized areas receiving fewer resources and lower quality care compared to urban and politically influential regions.

The consistent theme across these international studies is the detrimental effect of political dynamics on health equity. Health systems that operate under the influence of political favoritism tend to exacerbate health disparities, undermining efforts to achieve universal health coverage. To mitigate these issues, there is a need for health systems that prioritize medical needs over political affiliations, ensuring equitable access to health services for all population segments.

Another study conducted in the Philippines by Ramiro et al (2001), decentralization has been associated traditionally with participation and empowerment in local decision-making. This study of four cases analyzed the role of local health boards in enhancing community participation and empowerment under a decentralized system in the Philippines. Local government units (LGUs) with functioning local health boards were compared with LGUs whose health boards were not meeting regularly as mandated by law. The study found that there were more consultations with the community, fund-raising activities, health initiatives and higher per capita health expenditure in LGUs with functioning local health boards. Only the mayors and municipal health officers felt empowered by devolution. In general, awareness of devolution and their potential roles in health decision-making was low among members of the community.

Upon reviewing the interview transcripts, several statements suggest that politics played a significant role in the inefficiency or poor quality of healthcare services in Ayungon Municipality. For instance, the observation that additional health services were often provided during election periods indicates a potential link between political motives and the delivery of healthcare. Similarly, the limited engagement of the municipal mayor in

health-related matters, along with ineffective communication channels, may reflect political priorities taking precedence over healthcare needs. Additionally, published essays and journals often highlight the impact or influence of politics on the delivery of health services. Research has shown that political factors, such as resource allocation decisions, bureaucratic inefficiencies, and patronage networks, can all contribute to challenges in healthcare provision. Political interference in healthcare policymaking, budgeting processes, and staffing decisions can further exacerbate these issues, leading to disparities in access to quality care and compromised health outcomes.

In my informed opinion, politics undoubtedly plays a significant role in shaping the landscape of healthcare delivery in Ayungon Municipality, as it does in many other contexts globally. The intertwining of political interests, power dynamics, and governance structures can create barriers to effective healthcare provision, hindering efforts to address the diverse health needs of communities. To improve healthcare quality and access in Ayungon, it is crucial to address political factors that may be impeding progress by promoting transparency, accountability, and community engagement in healthcare decision-making processes among others. Additionally, fostering partnerships between local government, healthcare providers, civil society organizations, and other stakeholders can help mitigate the negative impacts of politics on healthcare delivery, ultimately leading to better health outcomes for residents.

## Methods

### Study Area

Ayungon is a second-class municipality located on the northern part of Negros Oriental. According to the recent census conducted by the National Statistics Office (NSO) last May 2010, it had a population of 46, 146 comprising of 24 barangays. On the same census, the said barangay was found out of having 1, 837 residents. Ayungon is located on the midriff of Oriental Negros' northern stretch, approximately two hours from Dumaguete City. It was selected as the venue for study since it was accessible for the researcher for it is his hometown.

**Figure 2**

*Map of Ayungon, Negros Oriental*



## Research Design

The study employed a cross-sectional descriptive type which involves one-time interaction with groups of people with its primary aim of identifying and determining the role of political dynamics in the healthcare system in the municipality of Ayungon. The researcher conducted formal and informal interviews with municipal nurses, barangay health workers, selected members of the barangay council and inhabitants through focus group discussions and the like. In addition, secondary data-    gathering was also done to supplement the information provided by the respondents.

Sampling Procedure

A total of 20 respondents were interviewed for this study. The respondents were selected based on their involvement and knowledge of healthcare services in Ayungon Municipality. Among the respondents, there were healthcare professionals including nurses and barangay health workers, local government officials, community leaders, and residents. The age range of the respondents varied from 25 to 60 years old. They had diverse    professional backgrounds and experiences related to healthcare and governance.

## Procedures for Data Analysis

The data analysis procedure involved transcribing interviews,

familiarizing with the data, initial coding, theme development, data reduction, cross-case analysis, and interpretation. The researcher identified recurring themes or patterns, clustered similar codes into broader themes, summarized key points, compared findings across cases, and interpreted the implications within the research context. Thematic and case analysis techniques were used iteratively to organize qualitative data and derive meaningful insights, leading to a comprehensive understanding of the research topic.

## Ethical Considerations

The study ensured, as much as possible, to maintain confidentiality and safeguard the respondents' privacy throughout the study. Anonymity was totally guaranteed. A signed informed consent (PIC) form was secured prior to the administering the questionnaires to the respondents, who were assured that any information or data gathered from them would be treated with confidentiality and would be properly disposed of two (2) years after the completion of the study. In addition, the respondents were provided with adequate information about the study and were assured that they had the power of free choice, to consent or decline participation voluntarily. It was emphasized by the researcher that failure to volunteer would not result in any penalty or loss. Moreover, even after consenting, the respondents were given the freedom to withdraw from the study and decline from providing any specific piece of information.

## Results and Discussions

## Political History and Structure of Ayungon, Negros Oriental

During The first political election of 1928, Julian Villanueva was called President and was replaced by Maximo Enardecido who became the mayor when World War II broke out. The municipal government and townfolks evacuated to the mountains of Pangi, a village southwest of Poblacion and part of Brgy. Gomentoc. The guerrilla movement was led by Capt. Eugenio "Kusgan" Antonio, liberation came in October 1944. Below (Table 2) is the list of appointed and elected town leaders.

| Appointed Town Leaders | |
|---|---|
| Name of Leader | Year/Term |
| Benito Sanchez | 1924-1927 |
| Apolonio Deguit | 1927-1928 |
| **Elected Town Leaders** | |
| Julian Villanueva | 1929-1939 |
| Maximo Enardecido | 1940-1951 |
| Juan Taburaza | 1952-1959 |
| Ireneo Tubio | 1960-1963 |
| Martin Garol | 1964-1967 |
| Ricardo Garcia | 1968-1977 |
| Nenimico Enardecido | 1977-1986 |
| Martin Garol (Appointed) Office-In-Charge | 1986-1988 |
| Lorenzo G. Dy | 1988-1998 |
| Edsel G. Enardecido | 1998-2017 |

Hon. Edsel G. Enardecido had his last triennium (2016 – 2017) service as municipal mayor. As shown in Table 2, Hon. Enardecido was the town mayor for almost two decades now. As reflected during the informal interviews with selected inhabitants and observed during elections, Enardecido usually gained higher votes in the upland areas compared to the barangays in the highways. In addition, Hon. Erwin Agustino, the incumbent vice-mayor of the town, was soon going to replace and follow the footsteps of Hon. Enardecido as mayor after his term.

## Municipal Health Budget or Health Financing

The Department of Health (DOH) is responsible for developing health policies and programs, regulation, performance monitoring, and standards for public and private sectors, as well as providing specialized and tertiary level care. The DOH Centers for Health and Development (CHDs) are the implementing agencies in provinces, cities and municipalities, and link national programs to Local government units (LGUs). The CHDs are the DOH offices at the regional level. They assist the LGUs in the development of ordinances and localization of national policies, provide guidelines on the implementation of national programs at the LGU levels, monitor program implementation, and develop support system for the delivery of services by

LGUs.

Health service delivery has evolved into dual delivery systems of public and private provision, covering the entire range of interventions with varying degrees of emphasis at different health care levels. Public services are mostly used by the poor and near-poor, including communities in isolated and deprived areas. Private services are used by approximately 30 % of the population that can afford fee-for-service payments. The service package that is supported by the government is outlined by PhilHealth. Coverage is reported by PhilHealth to be 74 million or 82% of the population at the end of December 2011. However, the services covered are not comprehensive, copayments are high, and reimbursement procedures are difficult.

The dominant private sector is made up of large health corporations and smaller providers. Health maintenance organizations are also present. Professional organizations contribute to continuing education, clinical practice guidelines development, advocacy, and influence policy and regulation. Opportunities for community participation in health are coursed through the barangay health workers who come from the local community, and representatives from civil society and the private sector who participate in LGU policy-making local health boards.

As deemed by most informants, the budget intended for health is dependent on the so-called Internal Revenue Allotment (IRA) coming from the national level. Allotted budget is divided equally to each barangay, leaving only around fifteen to twenty thousand for each barangay per annum, which is deemed to be very small and inadequate. It is also noteworthy to point out that during the conduct of health services, health workers solicit food for consumption since food is not part of the budget. Even transportation is not part of the said budget, if there would be a subsidy, it usually took weeks to months for them to get the reimbursement of their expenses.

A major driver of inequity is the high cost of accessing and using health care. The Philippines has had a national health insurance agency – PhilHealth – since 1995 and incrementally increased population coverage, but the limited breadth and depth of coverage have resulted in high-levels of out-of-pocket payments. In July 2010, a major reform effort aimed at achieving 'universal coverage' was launched. Providing a more comprehensive benefits package and reducing or eliminating co-payments, the reform focused on increasing the number of poor families enrolled in PhilHealth.

In addition, there was a low supply of health workers in the municipality since available "items" were very limited and dependent on the decision of the municipal mayor. Health supplies were also inadequate, compromising the health care delivery system of the municipality.

## Municipal Health-related Programs

Prenatal for pregnant women, immunization for children, fasting blood sugar, wound dressing, blood pressure and weight taking are programs pronounced by the key informants. These programs are scheduled and will usually occur every first Tuesday (prenatal) and every last Wednesday of the month (fasting blood sugar) while the rest are available anytime at their respective barangay health units. These programs are mandated by the Department of Health (DOH).

However, services were limited due to the fact that some of the health workers were appointed by their respective barangay chairmen with no means of qualifications. There were even some barangay health workers who were not cognizant of their job , did not posses enough essential knowledge, and were therefore not skilled enough to perform their tasks and duties. It was also pointed out that some barangay chairmen usually appointed individuals who were very close to them or were their relatives and friends.

When asked if there were programs being implemented at the municipal level, most of the informants and respondents answered "no." Health services and programs were dependent on the national level as deemed by many. Medical missions and other related health activities usually occured when election was fast approaching.

## Linkage between the Municipal Health Sector and Local Government Unit (LGU)

The interviewee's statement highlights several critical issues related to the engagement and effectiveness of local government in health service delivery.

Firstly, it was gleaned that the municipal mayor's engagement and participation in the health sector was limited or minimal. For instance, the municipal mayor would only attend the supposed monthly health meetings only once a year. This indicates a lack of consistent overseeing of and involvement in health-related matters by the local executive. The rare attendance suggests that the mayor may not be fully aware of the ongoing challenges and needs of the health sector. This limited engagement can lead to inadequate support and delayed decision-making on critical health issues.

Secondly, the communication channels were ineffective. There was an absence of effective communication channels for disseminating important information, such as details about seminars and training opportunities.

This deficiency hindered the health workers from keeping abreast with the best practices and advancements in their field. Without proper information flow, health workers may miss out on essential trainings and seminars, thereby leading to gaps in essential knowledge and skills and ultimately affecting the quality of health services they provide.

Lastly, it was found that the provision of health services was election-driven. This means that additional health services were often provided during election periods, which suggests that health initiatives might be politically motivated instead of being part of a sustained and strategic health improvement plan. The provision of additional services during elections may result in short-term improvements and political gains but do not address the underlying and ongoing health needs of the community. This approach can lead to inconsistent and unreliable health service delivery.

Overall, the interviewee's observations underscore the need for more consistent and proactive engagement from local government officials, better communication and training systems for health workers, and a shift towards a more stable and needs-based approach to health service provision, rather than one driven by political cycles.

## Salient Indicators and Questions on The Impact of Politics on Healthcare Services

Respondents consistently noted the limited engagement of the municipal mayor in health-related matters, with some indicating that the mayor attended health meetings only once a year. This lack of consistent overseeing and involvement of the local executive suggests a potential disconnect between political leadership and healthcare priorities.

In addition, many respondents highlighted the absence of effective communication channels for disseminating important information related to healthcare, such as details about seminars and training opportunities. This deficiency hinders the health workers from keeping abreast with the best practices and advancements in their field, thereby indicating a need for improved communication strategies within the healthcare system. Several respondents also pointed out the provision of additional health services during election periods, suggesting a pattern of politically motivated initiatives rather than a strategic and sustained approach to addressing community health needs. This observation raises concerns about the reliability and consistency of healthcare delivery, particularly during non-election periods.

By examining these indicators and questions, it becomes evident

that politics significantly influences the delivery of healthcare services in Ayungon. The findings underscore the need for greater political accountability, improved communication channels, and a shift towards a more needs-based approach to healthcare provision to address the diverse health needs of the community effectively.

## Conclusion

Ayungon has experienced significant political stability, with long-serving mayors like Maximo Enardecido and Edsel G. Enardecido. The transition of power from one mayor to another, such as from Edsel G. Enardecido to Erwin Agustino, indicates a continuity in leadership within the municipality. The municipality's health budget heavily relies on the Internal Revenue Allotment (IRA) from the national level. However, this budget allocation is perceived as inadequate, leading to challenges such as limited resources for health workers, insufficient medical supplies, and delays in reimbursement for expenses incurred during health services.

Further, despite efforts by the Department of Health (DOH) and PhilHealth to improve health coverage, there are still significant gaps in healthcare access and quality. High out-of-pocket payments and inadequate health worker supply contribute to inequity in accessing healthcare services, particularly for marginalized communities. Health programs at the barangay level, mandated by the DOH, focus on essential services such as prenatal care, immunization, and blood sugar monitoring. However, challenges such as the appointment of unqualified health workers and the lack of municipal-level health initiatives hinder the effectiveness of these programs.

The limited engagement of the municipal mayor in health-related matters, as evidenced by infrequent attendance to health meetings, indicates a lack of consistent oversight and involvement in addressing health challenges. Ineffective communication channels further exacerbate this issue, leading to gaps in information flow and missed opportunities for training and capacity building among health workers. Also, the provision of additional health services during election periods suggests a pattern of politically motivated initiatives rather than a strategic and sustained approach to addressing community health needs. This approach may lead to short-term improvements but fails to address the underlying health issues facing the community.

Overall, while Ayungon demonstrates political stability and a commitment to essential health programs at the barangay level, there are significant challenges related to health budgeting, service delivery, and

municipal government engagement. Addressing these challenges will require greater collaboration between local government officials, health stakeholders, and community members to ensure equitable access to quality healthcare services and a more sustainable approach to health development in the municipality.

## Recommendations

The following measures are highly recommended by the researcher.

**To the Local Government Unit of Ayungon**
- Additional allotment of funds and budget for healthcare services must be provided.
- Appropriate appointment of health workers is much needed to provide quality service.
-  More items for health workers should be opened to make health services more accessible and available to all town people.
- The municipal health officers and workers must work hand-in-hand to provide health programs in addition to the ones identified at    the national level

**To the Department of Health**
- Hands-on trainings and workshops to health workers must be conducted for them to become more skilled and globally competitive.
- Regular meetings and evaluation programs with the LGU  must be held to determine    whether the program was sustained or not at all.

**To the Municipal Health Workers**
- Municipal health workers must attend relevant seminars and lectures on health to become more knowledgeable and competent in their field of work    .
- They should attend regular meetings with the LGU and Health Officer to assess if programs are properly implemented and if programs are feasible or not.

## References

Anyangwe, S. C. E., & Mtonga, C. (2007). Inequities in the global health workforce: The greatest impediment to health in Sub-Saharan Africa. *International Journal of Environmental Research and Public Health, 4*(2), 93-100.

Bambra, C. (2007). Going beyond The three worlds of welfare capitalism: Regime theory and public health research. *J Epidemiol Community Health, 61*(12):1098–1102.

Beckfield, J. & Krieger, N. (2009). Epi + demos + cracy: Linking political systems and priorities to the magnitude of health inequities-evidence, gaps, and a research agenda. *Epidemiol Rev, 31*, 152–177.

Berman, P. A. (1998). Health sector reform: Making health development sustainable. *Health Policy, 45*(3), 155-174.

Bossert, T. J. (1998). Analyzing the decentralization of health systems in developing countries: decision space, innovation and performance. *Social Science & Medicine, 47*(10), 1513-1527.

Cavelaars, A. E., Kunst, A. E., Geurts, J. J., Crialesi, R., Grötvedt, L., Helmert, U., Lahelma, E., Lundberg, O., Matheson, J., Mielck, A., Mizrahi, A., Mizrahi, A., Rasmussen, N. K., Regidor, E., Spuhler, T., Mackenbach, J. P. (1998). Differences in self-reported morbidity by educational level: A comparison of 11 western European countries. *J Epidemiol Community Health, 52*(4), 219–227.

Chen, B., & Cammett, M. (2012). Informal politics and inequity of access to health care in Lebanon. *International Journal for Equity in Health, 11*, 23. Retrieved from http://www.equityhealthj.com/content/11/1/23

Department of Health (DOH). www.doh.gov.ph Esping-Andersen G: The Three Worlds of Welfare Capitalism. (1990). Princeton: Princeton University Press.

González-Rossetti, A., & Bossert, T. J. (2000). *Decentralization and health systems performance in Latin America: A comparative analysis of Chile, Colombia, and Mexico.* LACHSR Report No. 62, USAID.

Iles, V., & Sutherland, S. (2001). *Managing change in the NHS: Organisational change.* Retrieved from http://www.netscc.ac.uk/hsdr/files/project/SDO_FR_08-1001-001_V01.pdf

McDonell, G., & Dewdney, J. (2006). *Exploring the Political and Economic Dynamics of Health Policy.* University of New South Wales, Sydney, Australia

McIntyre, D., & Kutzin, J. (2006). *Health financing country diagnostic: A foundation for national strategy development.* Geneva, Switzerland: World Health Organization.

Mills, A., Gilson, L., & Hanson, K. (2002). *Commission on macroeconomics and health: An investment framework for health.* Geneva, Switzerland: World Health Organization.

Navarro, V., Muntaner, C., Borrell, C., Benach, J., Quiroga, A. Rodríguez-Sanz, M., Vergés, N., & Pasarín, M. I. (2006). Politics and health outcomes. *Lancet,* 368, pp. 1033–1037.

Olatunji, T. (2013). The impact of political patronage on health care delivery in Nigeria. *Journal of African Studies, 5*(4), 234-250.

Patel, P., Gibson-Fall, F., Sullivan, R., & Irwin, R. (2015). Documenting the impact of conflict on health services—A global public good? *Conflict and Health, 9*(1), 36.

Ramiro, L. S., Castillo, F. A, Tan-Torres, T., Torres, C. E., Tayag, J. G., Talampas, R. G., Hawken, L. (2001). Community participation in local health boards in a decentralized setting: Cases from the Philippines. *Health Policy Plan*, 16:61-69. doi: https://doi.org/10.1093/heapol/16.suppl_2.61

Savedoff, W. D., & Hussmann, K. (2005). Why are health systems prone to corruption? Global Corruption Report: Special Focus. *Corruption and Health,* 3-9.

Sheikh, K., George, A., & Gilson, L. (2017). People-centred science:
        Strengthening the practice of health policy and systems research.
        *Health Research Policy and Systems, 15*(1), 55.

Sterman, J. D. (2006). Learning from evidence in a complex. *World Am J
        Public Health, 96*, 505-514.

World Health Organization. (2010). *A conceptual framework for action on
        the social determinants of health.* World Health Organization.
        https://iris.who.int/handle/10665/44489

World Health Organization. (2011). www.who.org

# An Error Analysis of English Education Students' Academic Essays

Roem  T. Tuparan
*West Visayas State University - Himamaylan Campus*

Warlito S. Caturay Jr.
*Silliman University*

## Abstract

Error analysis is a process that allows the examination of language learners' errors and their sources. This type of investigation guided this study to examine 74 academic essays of  second-year level English-major students taking Bachelor of Secondary Education in a state university in Negros Occidental, Philippines. Based on Gustilo and Magno's framework (2012), 1,271 errors were identified. Of these, the most frequent error types relate to using commas, structuring sentences, verb tenses, prepositions, and word choices. In identifying the sources of these errors, Brown's framework was used. Data reveal that many of these errors stem from intralingual transfer, indicating the learners' incorrect application of the rules of English in their writing. Additionally, the errors in the paper were also described using the adapted frameworks of Corder  and Dulay et al. Majority of the errors can be described as misinformation.  The results of this study provide many pedagogical implications.

**Keywords**: error analysis, ESL writing, English composition, academic essays

## Introduction

Writing is an essential skill; hence, it is one of the communication skills emphasized in the academe. While its instruction begins at the basic level of education, students who reach the university still consider it challenging because it is cognitively demanding, requiring students to demonstrate their abilities to produce well-structured sentences and convey well-organized messages.

In the study of Gustilo and Magno (2012), independent raters, who were also trained ESL teachers, were asked about what aspects of writing they focused on while rating essays. All three shared that they focus both on language and non-language aspects of writing, although they all considered

the latter to be of primary importance so long as the grammatical errors committed are insignificant, minor, and very few. This implies then that overwhelming fractured structures may affect the overall quality of writing output.

Unfortunately, it is common for university instructors of writing classes to see college-level writings abound with grammatical errors of varying types. Studies done on Filipino college students' essays revealed this significant inadequacy in the students' linguistic competence (Mabuan, 2015; Catabay, 2016; Mendoza, 2016; Orbe, 2017; Almejas &Arago, 2017; Malimas & Samson, 2017; Tanpoco et al., 2019). Given this discovery, recommendations given all call for pedagogical practices geared toward remedying the lack of written grammatical accuracy among college students

Error analysis has been numerously recommended to be helpful and has been viewed as facilitative in achieving students' grammatical accuracy when its results are translated into classroom practices (Erdogan, cited in Khansir, 2012; Xie Fang, 2007; Huang, 2009; Mabuan, 2015; Almejas &Arago, 2017; Sermsook et al., 2017). With its results, teacher researchers have been able to explicitly suggest well-founded curriculum designs, teaching strategies, and innovative activities that are specifically geared toward the improvement of grammatical accuracy in writing (Mabuan, 2015; Catabay, 2016; Malimas & Samson, 2017; Orbe, 2017). For instance, with the help of the relevant pieces of information derived from error analysis, teachers can integrate into their introductory writing topics the most commonly committed error categories or types from which many errors can fall under. This can help students understand thematic concepts of their many grammatical errors (Schillinger, as cited in Huang, 2009). Moreover, teachers can also integrate into their introductory topics the causative sources of errors, such as interlingual transfer, intralingual transfer, and context of learning, among other possible sources from which grammatical errors originate. This can also provide students understanding of the causes behind their propensity to commit such errors. With this understanding of error sources, students can have the chance to recalibrate their second language production hypotheses regarding whether native language grammar or specific second language grammar rules can be applied to produce error-free second language production.

Corder (as cited in Vasquez, 2008; as cited in Lennon, 2009) laid out the original error analysis procedure in its traditional form. This procedure is arranged chronologically in a series of steps or stages. First is the selection of a corpus of language. A corpus consists of the samples of learner language that were either oral or written. Then the identification of errors

in the corpus follows. Next is the classification (or description) of the errors identified. After error classification, the explanation of the psycholinguistic causes of the errors (or explanation of errors) comes next. The final step is the evaluation of the errors (error gravity ranking). Identifying and classifying the errors is the crux of error analysis. However, they are meaningless unless the different sources from which the errors originate are identified. Two different positions explain the sources of errors. The first one posits that errors are caused by interferences from both the learners' first language and the target language itself, along with other possible external factors. The second one is based on the "creative construction" theory. This second position postulates that first and foreign language acquisitions are identical in that foreign or second language acquirers go through the same stages of gradual language acquisition as the first native language acquirers, characterized by the emergence of developmental errors. These developmental errors are neither L1 nor L2 interference errors and are found in the foreign or second language acquirers' idiosyncratic dialects or interlanguage (Vasquez, 2008). The two different positions should not necessarily be incompatible as many studies on interlanguage systems have demonstrated L1 and L2 interferences as sources from which many errors in the interlanguage can be traced. Richards (as cited in Heydari & Bagheri, 2012) formulated three major sources of errors: (1) interference errors which occur when learners draw on their linguistic knowledge of their first language in creating an utterance or sentence in the target language, (2) intralingual errors which lead to errors when learners misapply or misuse specific grammar rules of the target language in the process of producing the target language (Sermsook et al., 2017) and (3) developmental errors which occur when learners create and apply hypothesis on how the target language work based on limited experiences. Later on, due to some conflicting stand from other scholars (Schacheter & Celce-Murcia as cited in Heydari & Bagheri, 2012), he later reduced the major sources to two: interlingual errors and intralingual and developmental errors. Brown (as cited in Huang, 2009), on the other hand, arrived at four different sources of errors: (1) interlingual transfer, (2) intralingual transfer, (3) context of learning ["false concepts" for Richards (1974, as cited in Huang, 2009) and "induced errors" for Stenson (as cited in Huang, 2009), and (4) Communication Strategies.

There have been studies done that analyzed the errors in Filipino college students' writings. Mabuan (2015) investigated the blogs written by the students in the hospitality and travel programs; Catabay (2016) analyzed the writings of students enrolled in Business, Entrepreneurship and Accountancy; Orbe (2017) probed the compositions of students in the

maritime program; Malimas and Samson (2017) identified errors in the thesis proposal of the students in the departments of Communication, Linguistics, and Literature and Fine Arts; and Almejas and Arago (2017) investigated the compositions of BSED English-major students in relation to their profiles. Except for one, none of the studies accessed so far has examined the linguistic competence in writing by college students in the English teaching training in the Philippines, which is important because they will not only be users of the language for their personal and professional academic gain, but to a greater extent, they will be English teachers and models of English language use (Richards, as cited in Meniado, 2019).

Thus, this study investigated the writing outputs of Bachelor of Science in Secondary Education, majoring in English (BSED-English), at a state university in Himamaylan, Negros Occidental. Specifically, it sought to answer the following questions:

1. What are the most frequent error types found in the academic essays of BSED-English students?
2. What are the sources of the grammatical errors found in the academic essays of BSED-English students?
3. How can the errors found in the BSED-English students' academic essays be described?

## Method

This study followed mixed method research, using quantitative and qualitative methods (van Griensven et al., 2014). The primary data source was the academic essays of the 37 BSED-English students enrolled at a state university in Himamaylan, Negros Occidental. Two sets of their academic essays for their Technical Writing class were the corpus or language samples used for error analysis, following Corder's procedure (as cited in Vasquez, 2008). A total of 74 essays, which follow two rhetorical situations: expository and argumentative, were analyzed.

The errors in the essays were first categorized using Gustilo and Magno's framework (2012) and then quantified. The total values were then ranked to identify the most frequent error types. The following table shows the framework with illustrative examples.

**Table 1**

*Types, Definitions, and Examples of Errors*

| Type of Error | Definition | Example |
|---|---|---|
| Comma error | It is a type of error manifested in the unnecessary use of a comma or its absence when needed. | *The government the NGO's and the people all unite to fight the pandemic.* |
| Punctuation error | It is a type of error demonstrated in the wrong or inappropriate use of different punctuation marks or the absence of a punctuation mark when needed. | *The government has been serious about implementing the measures, however, many people are becoming impatient.* |
| Spelling Error | It is a type of error under which students' way of spelling English words is deviant from the acceptable spelling system of the English language, either American or British. | *I have recieved the letter.* |
| Capitalization Error | It is an error type that encompasses the failure to apply needed capitalization and the inappropriate application of capitalization when it is not required. | *The department of health always reminds the public to be responsible.* |
| Word choice error | It is an error type exhibited when the the chosen word's meaning is inappropriate in the given context in which it is used. | *The Philippine Health Insurance may not refund the money spent on medications.* |
| Word form error | It refers to the morphological deviation including the improper use of parts of speech. | *Many people behave intelligent.* |
| Singular or plural form error | It is an error type that refers to the failure to mark correct singularity or plurality when it is needed. | *Hospitals do not have enough medical equipments.* |
| Gerund – infinitive error | It is an error type exhibited when a gerund or infinitive is misused. | *We look forward to hear from you* |
| Unnecessary word error | It is a type of error that refers to the addition of a word when it is not needed. | *They should to obey the rules.* |

| | | |
|---|---|---|
| Verb tense error | It is an error type that is manifested when a wrong tense of a verb is used. This includes those verbs used in passive forms. | *The suspects are arrested last night.* |
| Sentence structure error | It is an error type pertaining to run-on sentences, sentence fragments, comma splices, and violations in parallelism. | *The frontliners are kind, responsible, and work hard.* |
| Subject–verb agreement error | It is a type of error that is exhibited when a sentence's subject and verb do not agree in number. | *The doctor do not hesitate to savelives.* |
| Word order error | It is an error referring to a phrase-level misordering of English syntax. | *The mission has been accomplished already.* |
| Dangling modifier error | It is an error type that occurs when a phrase or clause is not clearly and logically related to the word or words it modifies (Towson University Writing Support, n.d.). | *Seeing the urgency of medical attention, the patient was rushed to the nearest hospital.* |
| Misplaced modifier | It is a type of error that is manifested when a word, phrase, or clause is improperly separated from the word it modifies or describes. (Towson University Writing Support, n.d.). | *The nurse walked towards the isolation ward carrying a medicine tray.* |
| Pronoun error | It is a type of error that includes wrong gender pronoun, wrong pronoun case, erroneous pronoun shift and pronoun-antecedent error. | *The student was disappointed when they found out about the cancellation of field trips* |
| Preposition error | It is an error type exhibited when a preposition is misused in a given context. | *I'm not used in learning..* |
| Article error | It is an error type pertaining to the use of a wrong article, the absence of an article when needed, and the unnecessary use of an article. | *People need a rice* |

The error source framework adapted from Brown (as cited in Huang, 2009) in Table 2 was used to determine the sources of errors.

**Table 2**

*Error Sources, Definitions, and Examples*

| Error Source | Definition | Example |
|---|---|---|
| Interlingual Transfer | It is the influence of the learner's mother tongue that causes errors in second language production. | *The patient needs to drink his medicine.* Explanation: "drink" was literally translated from Hiligaynon "inom", meaning " to drink". It  is a verb used to refer to the act of taking medicine or drinking any liquid, . However, in English, it is semantically ungrammatical. |
| Intralingual Transfer | It is the negative transfer of items within the target language; in other words, the incorrect application of the rules within the target language itself. | *Sheeps* are common animals associated with Christmas. Explanation: The rule of expressing plurality was overgeneralized. Some nouns in English have irregular marking for plurality. |
| Context of Learning | Context of Learning refers to the source of induced errors caused by a teacher, a textbook, or a situational input, both seen and heard, that causes the learner to acquire erroneous usage of the second language. | *I did it already*.(Issue of syntax) Explanation: Students recalled that they had heard their teacher utter that structure on a few occasions. The teacher apparently has gotten used to the Philippine English variety. Hence, students assumed the structure is correct. |

The framework adapted from Corder (as cited in Vasquez, 2008) and Dulay et al. (as cited in Sompong, 2014) in Table 3 below was used to describe the errors.

**Table 3**

*Description of Errors, Definitions, Examples, and Coverage*

| Description of Error | Definition | Example | Coverage |
|---|---|---|---|
| Omission | It is the omission or dropping of the function words or markers | My sisters very pretty. | Comma Error – for omitted commas |
|  |  | They not like it. | Singular/Plural Error – for omitted morpheme "s" Article Error – for omitted article |

| | | | |
|---|---|---|---|
| Overgeneralization | It refers to the learners' act of applying certain rules of English to structures no longer covered by such rules. | *He can sings.*<br><br>*The sheeps are grazing on the field.*<br><br>*She fighted the COVID-19 disease.* | Singular or Plural Form Error – for overgeneralized plurality when "s" is simply added<br><br>Verb Tense Error – for overgeneralized marking of past tense with "ed"<br><br>Article Error – adding"a" to non-count noun |
| Misinformation | It includes the use of a wrong morpheme or form due to incomplete linguistic knowledge on the part of the language user. | *Do they happy?*<br><br>*My mother and me don't see each other often.* | Comma Error – for unnecessary use of commas<br>Punctuation Error<br>Spelling Error<br>Capitalization Error<br>Word Choice Error<br>Unnecessary Word Error<br>Verb Tense Error – showing lack of understanding of the correct use of tenses<br>Sentence Structure Error<br>Word Form Error<br>Gerund-Infinitive Error |
| Misordering | It refers to errors in word order or syntax. | *He usually comes late home.*<br><br>*Do you know where is the bus station?* | Word Order Error<br>Misplaced Modifier |

Qualitative data were elicited from two sources. Four teachers of Technical Writing were interviewed about their observations of their students' writing. Thirteen students participated in a focus group discussion (FGD). Qualitative data provided further explanation and elaboration on the error analysis results.

## Ethical Considerations

Measures were undertaken to ensure the observance of ethical standards. Consent was sought to gain access to the essays of the students. Interview and FGD participants' consent was also asked.

## Results and Discussion

From the analysis of 74 essays, 1,271 errors were identified. Table 4 shows the types of errors according to the framework, their occurrence in the students' essays, and their ranks in terms of frequency. Table 4 reveals that the five most frequent errors found in BSED-English students' papers are comma error, sentence structure error, verb tense error, preposition error, and word choice error.

**Table 4**
*BSED-English Students' Types of Errors*

| Error Type | f | % | Rank |
|---|---|---|---|
| Comma Error | 201 | 15.81 | 1 |
| Sentence Structure Error | 166 | 13.06 | 2 |
| Verb Tense Error | 152 | 11.96 | 3 |
| Preposition Error | 127 | 9.99 | 4 |
| Word Choice Error | 109 | 8.57 | 5 |
| Word Form Error | 78 | 6.14 | 6 |
| Subject/Verb Agreement Error | 77 | 6.06 | 7 |
| Singular/Plural Error | 74 | 5.8 | 8.5 |
| Article Error | 74 | 5.8 | 8.5 |
| Unnecessary Word | 56 | 4.4 | 10 |
| Pronoun Error | 44 | 3.46 | 11 |
| Punctuation Error | 32 | 2.52 | 12 |
| Capitalization Error | 22 | 1.73 | 13.5 |
| Word Order Error | 22 | 1.73 | 13.5 |
| Spelling Error | 20 | 1.57 | 15 |
| Gerund/Infinitive Error | 13 | 1.02 | 16 |
| Misplaced Modifier | 4 | 0.31 | 17 |
| Dangling Modifier | 0 | 0 | 18 |
| **TOTAL** | **1271** | **100** | |

Data show that comma error is the most frequent error type committed by BSED-English students. This means that the use of commas is the most contributory to the writing inaccuracy in the students' academic essays. The qualitative data from the one-on-one interview with each of the students' English teachers aligned with the findings. Three of the four

teachers interviewed mentioned that comma misuse is one of the most observed errors committed by students in their writing. One English teacher noted that students do not know when to use the comma. They do not know how to separate ideas using commas, and sometimes they place commas in the wrong positions. Another English teacher noted that comma misuse is a common punctuation error in students' writings. The third English teacher also mentioned using a comma as one of the observed difficulties students still face in writing.

Sentence structure error is the second most frequently occurring error in students' academic essays, which means that their writing includes fragments, run-on sentences, comma splices, and faulty parallelism. This type of error indicates students' inadequacy in shaping sentences. It appears that this problem is common among Filipino writers, as the same error type was found in the writings analyzed by Mabuan (2015) and Catabay (2016).

The third most frequent error in BSED-English students' writing is verb tenses. It seems that some students are still confused about what tense to use. This problem is shared among writers whose texts were analyzed by Mabuan (2015), Catabay (2016), and Mendoza (2016). Although verb tenses are taught at the basic level, many Filipinos still find the concept problematic. Specifically, the tense and aspect relationship in the English system is more complex than in the Filipino language system. Darus and Ting (2009) explained this problem, saying that second language learners' notions of tense and time may come into play when they use the English language.

The fourth frequently occurring error type in BSED-English students' writing is the misuse of prepositions, a problem commonly cited in many studies (Mabuan, 2015; Catabay, 2016; Mendoza, 2016). Many students find prepositions challenging to learn, probably because of L1 transference. Different languages have different preposition inventories; thus, it is likely for a target language to have more prepositions than the learners' first language. Also, there are prepositions in the English language that can be realized by only one preposition in the local language. For example, in and on have distinctions in usage, which are absent in the Binisaya's counterpart sa.

Aside from identifiying the types of errors found in the students' writing, this study also attempted to trace their origins. Table 5 below shows BSED-English students' sources of errors: interlingual transfer, intralingual transfer, and context of learning. An interlingual transfer is the influence of the learner's mother tongue, which causes errors in second language production. An intralingual transfer is the negative transfer of items within

the target language; in other words, the incorrect application of the rules of the target language within the target language itself. Context of learning refers to the source of induced errors caused by a teacher, a textbook, or a situational input, both seen and heard, that leads the learner to acquire erroneous usage of the second language (Brown, as cited in Huang, 2009; Heydari & Bagheri, 2012).

 There were 402 student errors (31.6% of the total errors) whose sources were traced to interlingual transfer; 865 student errors (68.1% of the total errors) whose sources were traced to intralingual transfer; and only four student errors (0.3% of the total errors) whose sources were traced to the context of learning.

**Table 5**
*BSED-English Students' Sources of Errors*

| Source of Errors | *f* | % |
|---|---|---|
| Interlingual Transfer | 402 | 31.6 |
| Intralingual Transfer | 865 | 68.1 |
| Context of Learning | 4 | 0.3 |
| **TOTAL** | 1271 | 100 |

One example of interlingual transfer as the source of error is found in a student's paper: I stayed at home and it was never the same, I can't do what I used to do. In the sentence, the context indicates a completed past action; however, instead of using could to mark the past capability, the student still used can. This error is interlingual because in the student's mother tongue, a past marker for a Hiligaynon modal verb counterpart that expresses capability does not exist.  For intralingual transfer, one student erroneously used the preposition unto instead of at in the sentence: Let us not just look unto its negative aspect only. The student must have thought that, since the verb look can be used with other prepositions such as into, over, on, just to name a few, unto, which is also an English preposition, must also be correct with the verb, look. For the context of learning as the third source of error in this study, a student used the phrase, resulted to instead of resulted in. This structure has been commonly seen and heard, especially in the Philippines. The student must have thought it to be correct.

Data show that majority of the errors stem from intralingual transfer. This result supports the findings of the study conducted by Kim (as cited Heydari & Bagheri, 2012), which indicated that the majority of the errors among post-pubertal learners of English could be traced to intralingual

transfer. Interlingual transfer in the said study only accounted for 22% of the errors compared to the 65% of errors attributed to intralingual transfer. The result that the context of learning is the least contributory source of learner language also corroborates with the findings of Ying (as cited in Heydari & Bagheri, 2012).

Among the reviewed local studies on error analysis, only the study of Mabuan (2015) and Mendoza (2016) mentioned the sources of errors. However, in Mabuan's study, sources of errors were never focused on; no thorough analysis was run, and no quantification was made. The study of Mendoza (2016), however, corroborates the results of this study and other foreign studies: the majority of the errors identified were caused by intralingual transfer and were found in most of the categories investigated.

The dominant influence of intralingual transfer, as demonstrated both by this study and other studies, was echoed by the responses of the student representatives during the FGD. The dominant causative role of intralingual transfer can be gleaned from their responses when asked about the factors that lead them to commit errors:

You are confused about the sentence structure and the functions of the eight parts of speech (Student Representative #10)

Ahmm… the choice of words kag constructing (of) a sentence and..dawamo lang na siya.[ …the choice of words and constructing of a sentence…these are all (my difficulties in understanding grammar)](Student Representative #1)

Basic rules of grammar Ma'am…there are a lot of conflicts regarding the rules of grammar… (Student Representative # 7)

Ako guru Ma'am…*sa anu guru* Ma'am…sa tenses…ang proper usage balanila Ma'am. (For me…perhaps with the tenses…you know…their proper usage…)
(Student Representative 3)

For me…on the vocabulary, because sometimes, *ara bala nga* common *ta nga mga* words *nga ginabutang sa* sentence, *wala ta kabalo nga may* other terms for that. [For me, on the vocabulary. For example, with the commonly known words to us that we use in a sentence, we are not aware that there are other (more precise) terms for that (for the context of

the sentence)] (Student Representative #2)

Choice of word *gid* Ma'am *kay kis-a Ma'am kun anu lang bala ang magsulod bi sa imo pamensaron kag kun kis a pagbasa mo daw ka intsakto na. Nan, amo lang na.*

[Indeed, it's with the choice of words because sometimes, whatever word that just comes quickly to mind and sometimes when you read it (in your sentence), it kind of already sounds correct. That is it.] (Student Representative #5)

I'm confused with…sa use *bala sang* mga have had, has… samgaamona.

(I'm confused with the use of have, had, has…(I'm) confused with these words.)

(Student Representative # 8)

From the student responses above, it is evident that the incomplete knowledge of the rules of English and the confusion surrounding the different rules of English led students to commit errors in their academic essays. This explains the highest percentage of intralingual transfer as a causative source of the students' errors. The high complexity in inflections and syntax of English and the irregularities across many English grammar rules are apparently contributory to many of the student errors. Knowing that English has its own rules and that these rules should almost always be the bases for second language production, students tried to maximize their knowledge of English. They lean much more on its parameters to produce the language based on its rules in the hope of producing it correctly. However, their incomplete understanding, their misconceptions about certain rules, and their lack of awareness of the many rule exceptions across different grammatical and mechanic features of English would still cause them to commit errors. This explains why the majority of their errors were intralingual in nature. These college students, who had already undergone many years of formal English learning from elementary through senior high school, know well enough that when producing the English language, they must base their hypothesis largely on the rules of English because it is different from their first language. This also explains why interlingual transfer is only second to intralingual transfer as a causative source of student errors. Students use the communicative strategy of L1 when they know a particular language feature is transferable based on experience, when direct translation is automatically

used, or when there is no second language production hypothesis that can be assumed to be applicable.

**Table 6**
*BSED-English Students' Description of Errors*

| Description of Errors | f | % |
|---|---|---|
| Omission | 283 | 22.3 |
| Overgeneralization | 25 | 2 |
| Misinformation | 937 | 73.7 |
| Misordering | 26 | 2.04 |
| **TOTAL** | **1,271** | **100** |

Table 6 shows the descriptions of the errors found in BSED-English Students' writing. In analyzing the texts, four (4) error descriptions adapted from the frameworks of Corder (as cited in Vasquez, 2008) and Dulay et al. (as cited in Sompong, 2014) were used. These are omission, overgeneralization, misinformation, and misordering. An omission is the omission or dropping of a function word or marker. Overgeneralization refers to the learner's act of applying certain rules of English to structures no longer covered by such rules. Misinformation is the use of a wrong morpheme or form due to incomplete linguistic knowledge on the part of the language user. The last one is misordering, which is demonstrated when a learner misarranges words, phrases, or clauses, resulting in English syntactic errors. Of the 1271 errors found in the academic essays, 283 were omission errors, 25 were overgeneralization errors, 937 were misinformation errors, and 26 were misordering errors.

A large number of errors found in the students' academic essays fell under misinformation errors. These were highly observed in spelling, word choice, verb tense, sentence structure, subject-verb agreement, pronoun, and preposition errors. This was followed by omission errors which were highly observed in comma, article, and singular or plural errors. Misordering and overgeneralization came third and fourth at the farthest end of the frequency. Misordering errors were exclusively observed on word order and misplaced modifiers, while overgeneralization errors could often occur in verb tenses and in singular or plural forms.

When assigning errors to their corresponding description, it was found that the frequency of a particular error description is impacted by the nature of errors or deviation from the correct form or structure of English. Errors are naturally predisposed to a particular description because the

phenomenon has something to do with how errors deviate from the correct forms of English. The nature of the deviation itself defines the error's description

## Conclusion

Based on the result of the inquiry stated in research question 1, it is concluded that Filipino college students, in general, have the same or similar writing difficulties on certain grammatical and mechanic elements of writing regardless of the academic program, language background, and institution.  The results of this study and other local studies corroborate each other. The findings from this study, along with other local studies on the most frequent error types generally committed by Filipino college students, can then be generally applied to the task of curriculum development. For example, when considering the idea of including grammar and mechanics in the creation of a college writing syllabus that will not just equip students with the non-language aspect of writing but will also equip them with writing accuracy, the commonly demonstrated grammatical and writing mechanic elements that make up the residual gaps in the written language knowledge of Filipino college students can be included. Moreover, these specific grammatical and mechanic elements can also be applicable to any institutional intervention to improve college students' writing skills, such as writing remedial classes, refresher courses, or seminars and workshops. Timely institutional or pedagogical initiatives taken to address the identified written language gaps will bring about tangible solutions to the problem of lack of significant writing accuracy among Filipino college students in general. These initiatives will gradually improve college students writing and will ultimately improve students' accuracy in the written English language. The same attained writing accuracy will also result in improved English proficiency for future English-teaching -trained Filipino college graduates and future Filipino college graduates.

Based on the result of the inquiry expressed in research question 2, the following conclusion can be made: some causative elements or origins predispose learners or language users to commit errors. The three sources or errors identified were interlingual transfer, intralingual transfer, and context of learning. Therefore, it is indispensable to include these error sources in the lessons and discussions in an English learning classroom. Teachers should make students aware of these sources, which may have been causing them to commit errors in English. Students should be guided on how to recalibrate their second language production hypothesis. They should know that there

are certain grammatical rules of L1 that cannot be applied in the grammar of L2. In the same manner, certain grammatical rules in L2 cannot be applied entirely in some usage of L2. In other words, there are exceptions to the rule; this should be emphasized in an English learning classroom. Considering that the greatest number of errors were intralingual in nature, teachers should ensure that when introducing or reintroducing certain second language features, a sufficient amount of time is spent on thoroughly explaining and comprehensively covering the rules and exceptions governing the features under study. This is to avoid or minimize the propensity to commit errors caused by the intralingual transfer. The result of this study on the most frequent error types committed, along with the results of other studies on this subject, can be beneficial. Also, students should be informed that not all structures they commonly read or hear, most especially in the context of English use in the Philippines are correct. Although the view of global Englishes has been gaining importance, students should also weigh on which perspective they will most likely succeed in academically, professionally, and internationally.

Based on the result of the inquiry stated in research question 3 concerning what descriptions can be used to describe the errors, it is concluded that the students' errors varied in terms of how each error deviates from the correct form or structure of English. Furthermore, describing errors can be useful when incorporated into the teaching techniques used in teaching English structure and grammar or when teaching writing. Students can be directed to ways they form errors. With this awareness, students may discover ways to check or edit their written output, locating certain spots in the written output where they have the propensity to deviate and make necessary corrections on these spots. Through this, they can easily select parts or words which may contain omission errors, such as in parts where commas may have been omitted or in words where morphemes may not have been added.

Moreover, students can also easily check phrases or clauses where correct English syntax may have been misarranged or reversed. These are just a few applications of the importance of knowing the different descriptions of errors for teachers and students. With students having this awareness, their self-monitoring or editing abilities for their second language production in written forms can even be enhanced.

# References

Almejas, B., &Arago, E. (2017). A corpus-based analysis of students' composition writing. *International Conference on Literature, Humanities and Social Sciences, 17*, 47-52. http://uruae.org/siteadmin/upload/ED0117323.pdf

Catabay, M. (2016). Error analysis on students' writing. *International Journal of Advanced Research in Management and Social Sciences, 5*(,-1), 131-148. http://www.garph.co.uk/IJARMSS/Jan2016/9.pdf

Gustilo, L. &Magno, C. (2012). Learners' errors and their evaluation. The Philippine ESL Journal, 16, 27-45. https://files.eric.ed.gov/fulltext/ED566412.pdf

Heydari, P. & Bagheri, M. (2012). Error analysis: Sources of L2 learners' errors. *Academy Publisher, 2*(,_8), 1583-1589. http://www.academypublication.com/issues/past/tpls/vol02/08/06.pdf

Huang, J. (2009). *Error analysis in English teaching: A review of studies.* http://www.lcwu.edu.pk/ocd/cfiles/TESOL/MA-TSL-308/ErroranalysisinEnglishteachingAreviewofstudies.pdf

Khansir, A. A., (2012). *Error analysis and second language acquisition.* Theory and Practice in Language Studies, 2(, -5), 1027-1032. https://www.academypublication.com/issues/past/tpls/vol02/05/22.pdf

Lennon, P. (2009). *Contrastive analysis, error analysis, interlanguage.* http://wwwhomes.uni-bielefeld.de/sgramley/CA-ErrorAnalysis-Interlang-Lennon.pdf

Mabuan, R. (2015). *An analysis of weblogs' grammatical errors of Filipino learners of English as second language.* https://www.dlsu.edu.ph/wpcontent/uploads/pdf/conferences/research-congress-proceedings/2015/LLI/006LLI_Mabuan_RA.pdf

Malimas, M.A., & Samson, S. (2017). Linguistic error analysis on students' thesis proposals. *IAFOR Journal of Language Learning, 3* (,_2), 193-208. https://files.eric.ed.gov/fulltext/EJ1167267.pdf

Meniado, J. (2019). *Evaluating the English proficiency of faculty members of a higher institution using results to develop responsive professional development program.* https://www.researchgate.net/publication/330740868_Evaluating_the_English_Proficiency_of_Faculty_Members_of_a_Higher_Education_Institution_Using_Results_to_Develop_Responsive_Professional_Development_Program

Mendoza, P.J. (2016). *Analysis of in-class writing errors of college freshmen students.* https://www.researchgate.net/publication/322789805_Analysis_of_in-class_Writing_Errors_of_College_Freshmen_Students

Orbe, M.C. (2017). *Sentence-level errors in written English essays of selected MAAP midshipmen: What can we do about it?* https://www.researchgate.net/publication/318724579_Sentence-Level_Errors_in_Written_English_Essays_of_Selected_MAAP_Midshipmen_What_Can_We_Do_About_It

Sermsook, K. Liamnimitr, J., &Pochakorn, R. (2017). *An analysis of errors in written English sentences: A case study of Thai EFL students.* https://www.researchgate.net/publication/313460902_An_Analysis_of_Errors_in_Written_English_Sentences_A_Case_Study_of_Thai_EFL_Students

Sompong, M. (2014). Error analysis. *Thammasat Review, 16*(, -2, ), 109-127.https://sc01.tci-thaijo.org/index.php/tureview/article/view/40756/33770

Tanpoco, M., Rillo, R. &Alieto, E. (2020). Filipino to English transfer errors in writing among college students: Implications for the senior high school English curriculum.*ELSEVIER* https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3561289

van Griensven, H., Moore, A., Hall, V. (2014). Mixed method research: the best of both worlds? https://www.researchgate.net publication/263097498_Mixed_methods_research_-_The_best_of_both_worlds

Vasquez, D.A. (2008). Error analysis in a written composition. *SIELO* http://www.scielo.org.co/scielo.php?script=sci_arttext&pid=S1657-07902008000200008#:~:text=Corder%20(1973)%20classifies%20errors%20in,develop d%20in%20the%20following%20way%3A&text=Thirdly%2C%20error%20analysis.

Xie Fang, J.X (2007). Error analysis and the EFL classroom teaching. *US-China Review  Education*, (,-9), 10-13. https://files.eric.ed.gov/fulltext/ED502653.pdf

# SILLIMAN JOURNAL