

# Awareness of Millennial Undergraduate Students of a Private University in the Philippines on Bioethical Practices and Issues

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## ABSTRACT

This descriptive research assessed the level of awareness of millennial undergraduate students of a private university in the Philippines on the bioethical practices such as abortion, surrogacy, euthanasia, eugenics, organ donation/ transplant, and in-vitro fertilization that give rise to bioethical issues. The author utilized a validated self-made instrument to gauge the respondents' knowledge, understanding, and awareness of these bioethical practices and issues. The findings show that all the student-respondents have a high level of knowledge that bioethical practices, such as abortion, surrogacy, eugenics, organ donation, and in-vitro fertilization do exist in modern society. They also reveal that Psychology, Education, and Nursing student-respondents have a very high level of understanding the meaning of these bioethical practices. The results further reveal that Education students are the most highly aware of how the advancements in science lead to the emergence of new bioethical issues. The implications reflect the views of the millennial undergraduate students on the

bioethical issues brought about by the advancements in medical science. The millennial cohorts are the driving force shaping the future; hence, there is still a need to reinforce and develop the understanding of bioethics as respect for life which can help them make ethical choices in the dilemmas that they may face in life.

**Keywords** — Awareness, Undergraduate, Millennials, Bioethical Practices/ Issues

## INTRODUCTION

Bioethical and medical issues are among the most important concerns facing society today due to the consequences connected with the possibility to control human procreation. Humanity is greatly involved and affected due to these issues. The emergence of experimentation on human beings, genetic engineering, organ, and tissue transplants, and the role assigned to medicine when decisions of life and death are involved. The millennial views on humanity change as modern techniques and technology that give man the power to modify life arise. This study is significant because it was able to assess the level of awareness of millennial undergraduate students toward prevalent bioethical practices and issues. The results of this study reflect the possible projection of the future specifically regarding the rights to life and health, the rightness and wrongness of certain developments in healthcare institutions, life technology, and society's responsibility for the life and health of its members, are being discovered and practiced nowadays.

Abortion refers to the premature ending of a pregnancy which occurred in itself (known as a miscarriage or spontaneous abortion) or by force through surgery or taking medications. The topic of abortion raises intensely personal issues about many topics such as morals, religion, sexuality, autonomy, politics, and science and medicine. During the abortion, the central question is focused on whether or not an unborn child (called fetus) has moral status and significance. Aside from that, questions regarding parental responsibilities and obligations as well as the issue of personhood arise. The latest study on abortion in the British Journal of Psychiatry has found that abortion increases the risk of mental health problems for women by 81%. According to the latest research from the UN and World Health Organisation, Ireland leads the world in safety for pregnant mothers. The report, which was published in September 2010, found of all 172 countries for which estimates are given, Ireland remains at the top when it comes

to safety for pregnant women. In other words, women are safer in Ireland when pregnant than in countries like Britain and Holland, which allow abortion on demand.

Based on Jiro Cadungon's 2013 article about euthanasia, "In the Philippines, euthanasia is not legal for the reason of the predominance of the religious communities which hinders the ratification of the Euthanasia Bill. Likewise, as a religious country, the majority of the Filipinos value the Christian doctrine as the foundation of their conviction." Meaning "*good death*," euthanasia is the process of intending to end the life an individual to stop his or her pain and suffering.

The term eugenics is derived from the Greek word "eu," meaning good or well, and "genos," meaning offspring. Conventional eugenics, or intentional selective breeding for improved genetic traits, has been performed on crops and livestock for thousands of years. The term eugenics as it pertains to humans, was first coined by Sir Francis Galton in 1883. Advancements in technology are now able to allow researchers and physicians to view and have access to the whole genome of a newborn. Such screening is used to determine the individual's chances of acquiring and developing certain diseases. However, this process seems to draw criticisms primarily because of the lack of consent from the individual--*the newborn*. In Aldous Huxley's futuristic novel *Brave New World* (1932), human beings are selectively bred to be genetically perfect. Based on their genes, they are sorted into a caste system that defines their social hierarchy. The consequences of these reproductive advancements and their impact on the evolution of our society are only beginning to be explored.

**Organ donation/transplant** is the process of removing an organ from one person and surgically placing it in another person. Many organs can be donated, and these include the liver, kidney, pancreas, and heart (The Cleveland Clinic Foundation). Similar to cloning and stem cell research, organ donation have raised numerous moral, societal, and ethical concerns about the use of living people as donors.

Infertility can be a devastating occurrence to a couple whose wish is to have and raise a child. **In-vitro fertilization** (IVF) is an expensive and time-consuming process that may potentially not yield a baby. The process can be as stressful and heartbreaking as it is one of hope. Ultimately, the decision to pursue IVF is the couple's alone.

In his study on Bioethics Education, Darryl Macer (1997) concluded that ethics education and respect for life must reach all people in all levels--from high school to professional. There is still a need to reinforce and develop the

understanding of bioethics as respect for life which can help individuals make ethical choices in the dilemmas that they face in life. The undergraduate courses look at bioethics as the study of the ethical issues of life, and the bioethical issues brought about by the use of genetic technology in medicine as well as in agriculture. The course discusses science, ethics, and legal aspects from an international perspective and focuses on making decisions in a balanced and rational way.

## FRAMEWORK

This study is anchored on the *Generational Cohort theory* which states that important historical events and social changes in society affect the values, attitudes, beliefs, and inclinations of individuals (Edmunds & Turner, 2005; D'Amato & Herzfeldt, 2008). The *Millennial cohorts*, who are born between 1981 and 2000 (Howe & Strauss, 2003), are known to possess an intuitive sense in understanding technology, bringing a much more creative and innovative approach to solving problems than any of the previous generations. Millennials came of age in a time where the entertainment industry began to be affected by the Internet. In addition to millennials being the most ethnically and racially diverse compared to the generations older than they are, they are also on pace to be the most formally educated and are more open to change than older generations.

In the 1960s, a phenomenon in the field of medical ethics resulted to the birth of what has become known as *bioethics*, which introduced a wide range of ethical concerns and questions (McCormick & Connors, 2002). One of the events was advancements of dialysis machines, artificial ventilators, and organ transplants that offer the possibility of keeping alive patients who otherwise would have died; in vitro fertilization and related reproduction techniques that allow a range of new relationships between parents and children, including the birth of children who are not genetically related to the women who bear them; and the development of modern contraceptives, prenatal testing, and the availability of safe abortions that have given women and couples increased choices about the number and kinds of children they are going to have (Kuhse & Singer, 2009).

## OBJECTIVES OF THE STUDY

Bioethics is filled with difficult ethical questions for the youth and their families, medical practitioners, government officials, as well as for other members

of the community. Fundamental values are at stake: human life, the dignity of the frail and elderly, just healthcare, bodily integrity, and the ability to make reasonable decisions.

On this premise, the researcher conducted this study to assess the level of awareness of millennial undergraduate students toward bioethical practices and issues. This study determined the profile of the respondents according to age, gender, course, and year level. It further assessed the level of knowledge of the respondents as to the existence of bioethical practices in the society such as abortion, surrogacy, euthanasia, eugenics, organ donation/transplant, and in-vitro fertilization, their level of understanding of the meaning of each bioethical practice, as well as their level of awareness of the bioethical issues brought about by these practices.

Previous studies found that the youngest cohort, labeled as the Millennial Generation, has relatively conservative pro-life preferences (Wilcox and Carr 2010). The results of this study confirm the claims of previous authors that the Millennial Generation has pro-life preferences. The implications of the respondents' level of awareness on bioethical practices and issues lead to the importance of including Bioethics as a basic subject in the tertiary education curriculum, not only for the health-related degree programs.

## **METHODOLOGY**

The descriptive survey research design was used in this study to determine the level of knowledge, understanding, and awareness of undergraduate millennial students of a private university in the Philippines on the existence of bioethical practices and issues in the present society. Soliven (2001) stated that the descriptive design aims to systematically and accurately describe the facts and characteristics of a given population or area of interest. It is important to emphasize, however, that descriptive research methods can only describe a set of observations or the data collected (Jackson, S.L. (2009).

The primary tool used to gather data for this study was a researcher-made survey questionnaire, validated by the Dean of Nursing, Marlene R. Padua, who is also co-chairman of the Arellano University Ethics Review Board, and two experts in the field of psychology. Descriptive survey research design is a valid method for researching specific subjects and as a precursor to more quantitative studies. The aim of using close-ended questions is to draw concrete conclusions about the respondents. This could be the need to derive patterns, traits, and

behaviors of the respondents. It could also be to understand from a respondent, their attitude or opinion about the phenomenon in question.

Part 1 of the survey questionnaire determined the profile of the respondents according to age, gender, course/program, and year level. Part 2 focused on assessing the level of awareness of the millennial undergraduate students on bioethical practices and issues. For the statistical treatment of data gathered, the percentage was used to analyze the profile of the respondents, and the average weighted mean with 4-point Likert scale was utilized to analyze the respondents' awareness on bioethical practices and issues. Likert scales have the advantage that they do not expect a simple yes or no answer from the respondent, but rather allow for degrees of opinion, and even no opinion at all. The 4-point Likert scale is also called a forced Likert scale since the user is forced to form an opinion since there is no safe 'neutral' option. Therefore quantitative data is obtained, which means that the data can be analyzed with relative ease. Validity was computed at 4.4 FCV (Very good) and Reliability at 0.89 CA (High).

The scale below was used to interpret the data gathered and the results.

RANGE OF WEIGHTED MEAN	INTERPRETATION
3.26 – 4.0	Very High Level of Knowledge in the Existence of Bioethical Practices in Society; Understanding the Meaning of the Bioethical Practices; Awareness of the Bioethical Issues brought about by these Practices
2.51 -3.25	High Level of Knowledge in the Existence of Bioethical Practices in Society; Understanding the Meaning of the Bioethical Practices; Awareness of the Bioethical Issues brought about by these Practices
1.76 - 2.5	Low Level of Knowledge in the Existence of Bioethical Practices in Society; Understanding the Meaning of the Bioethical Practices; Awareness of the Bioethical Issues brought about by these Practices
1.00 – 1.75	Very Low Level of Knowledge in the Existence of Bioethical Practices in Society; Understanding the Meaning of the Bioethical Practices; Awareness of the Bioethical Issues brought about by these Practices

This study utilized convenience sampling to select the seventy (70) respondents evenly representing the population from the seven different colleges in the university: Business, Education, Information Technology, Psychology,

Hotel and Tourism Management, Criminology, and Nursing. According to Castillo (2009), convenience sampling is a type of non-probability sampling technique wherein the subjects are selected because of their convenience, accessibility, and proximity. Convenience sampling (also known as availability sampling) is a specific type of non-probability sampling method that relies on data collection from population members who are conveniently available to participate in the study.

All the respondents were bona fide millennial undergraduate students, with ages ranging from 18 to 23 years old, of a private coeducational and nonsectarian university located in the National Capital Region of the Philippines. The *Millennial cohorts*, who are born between 1981 and 2000 (Howe & Strauss, 2003), are known to possess an intuitive sense in understanding technology, bringing a much more creative and innovative approach to solving problems than any of the previous generations.

The researcher complied with the research ethics protocol in having this paper undergo expedited review by the Ethics Review Board of Arellano University with minimal risk to study participants and minor revisions in the protocol or informed consent. The researcher explained the objectives and procedures of the study to the respondents prior to voluntarily signing the informed consent. They were duly informed of their right to refuse or reject as a sample for this study, which is for academic purposes only, with emphasis on their anonymity as respondents and confidentiality of their responses. As certified by the AU Ethics Board Review committee, no ethical violations were committed by the researcher in the conduct of this study.

## **RESULTS AND DISCUSSION**

Out of the seventy (70) millennial undergraduate students who served as respondents in this study, the majority were female, between the ages of 18 and 23 years old, and in the third year of their respective courses at the time this study was conducted.

Table 1. Knowledge of the Existence of Bioethical Practices in Society

1. I know that these bioethical practices exist in our society.	PSY	EDUC	IT	NRSNG	BA	HTM	CRIM
1.1 Abortion	3	3.6	2.2	2.6	2.6	2.3	3
1.2 Surrogacy	2.9	3.3	2.7	2.7	3.1	2.1	3
1.3 Euthanasia	3.1	3.3	2.3	2.3	2.9	2.2	2.6
1.4 Eugenics	2.6	2.5	2.7	2.4	2.4	2.8	2.8
1.5 Organ donation and transplant	3.3	3.3	3.1	3.4	3.4	3.4	3.4
1.6 In-vitro fertilization	2.7	2.9	2.5	2.7	3.4	2.7	3.1
Weighted Mean	2.93	3.15	2.58	2.68	2.97	2.58	2.98
INTERPRETATION	H	H	H	H	H	H	H

The millennial student-respondents have a High level of Knowledge of the existence of bioethical practices such as abortion, surrogacy, eugenics, organ donation/ transplant, and in-vitro fertilization in the society. The Education student-respondents had the highest level of knowledge of all practices, which may be due to their wide exposure to print and display media as a requirement for their core subjects. Millennials came of age in a time where everything is accessible through the Internet; hence, they are more open to change. Aside from being the most ethnically and racially diverse generation, they are also on pace to be the most formally educated (Taylor et al. 2014).

Table 2. Understanding of the Meaning of Each Bioethical Practice

2. I understand the meaning of these bioethical practices.	PSY	EDUC	IT	NRSNG	BA	HTM	CRIM
2.1 Abortion involves the deliberate termination of pregnancy by killing the fetus.	3.7	4	2.1	3.5	2.9	4.1	2
2.2 Surrogacy is implanting and carrying an embryo to deliver a baby for another person/ couple.	3.7	3.9	2.9	3.6	3.1	2.8	3
2.3 Euthanasia intentionally ends a life through medical procedures to relieve pain and suffering.	3.7	2.9	2.9	3.7	2.9	2.9	2.5
2.4 Eugenics is choosing desired characteristics of parents selected to improve future generations.	3.3	3	2.7	3.5	2.8	3	2.6
2.5 Organ donation is the process of surgically removing an organ from one person (donor) and placing it into another person (recipient)	3.6	3.9	2.9	3.7	3.1	3.3	2.3
2.6 In-vitro fertilization is fertilizing an egg with a sperm outside of the woman's womb (in test-tubes).	3.58	3.1	2.7	3.8	2.9	2.7	2.7
Weighted Mean	3.59	3.47	2.7	3.63	2.95	3.13	2.52
INTERPRETATION	VH	VH	H	VH	H	H	High



Results reveal that the student-respondents from the Psychology, Nursing, and Education departments have a Very High level of Understanding the meaning of each bioethical practice. This is because they have greater access to current events and mass media, especially on medical advancements and scientific breakthroughs. However, HTM students have the highest level of understanding about abortion, which implies that Hospitality and Tourism students have more exposure to such bioethical practice among their peers and schoolmates.

Table 3. Awareness of the Bioethical Issues brought about by these Practices

3. I am aware of the bioethical issues brought about by these practices:	PSY	EDUC	IT	NRSNG	BA	HTM	CRIM
3.1 Abortion is done for personal reasons or convenience.	2.9	3.9	3.1	2.6	2.9	2.4	2.4
3.2 Surrogacy is done by surrogate mothers to earn money	2.6	3.2	2.6	2.8	2.8	2.3	2.6
3.3 Euthanasia is done to shorten one's suffering against the will of God.	3	3.3	2.9	2.8	2.9	2.2	2.3
3.4 Eugenics is done by tinkering with the natural genetic characteristics of the unborn to produce a better offspring.	2.7	3.1	3	2.8	3.1	3	2.3
3.5 Organ donation is used by some people (donors) to earn money at the risk of their own health.	3	3.6	2.6	3	3.1	3.3	2.3
3.6 In-vitro fertilization is done with living embryos discarded when the IVF cycles do not lead to live birth.	2.6	3	2.8	3	2.8	2.7	2.1
Weighted Mean	2.8 H	3.35 VH	2.83 H	2.83 H	2.93 H	2.65 H	2.33 Low

The Education students have a Very High level of Awareness of the bioethical issues brought about by these practices, while the Criminology students have a Low level of Awareness. On the other hand, the rest of the students have a High level of Awareness. The Millennials could become even more pro-life as they age. Furthermore, if ongoing national trends drive their prolife orientation, one might expect future generations to be even more prolife. Some have speculated that young people's attitudes are driven by changing depictions of abortion in popular culture (e.g. Wilcox and Carr 2010, 141-2). According to the 2008 survey conducted by the Pew Research Center, millennials are the most likely of any generation to self-identify as *liberals* and are also more supportive of *progressive* domestic social agenda than older generations. They are less overtly religious than older generations, as one in four millennials are not affiliated with

any religion, a considerably higher ratio than that of older generations at the same age (Taylor et al. 2014).

A study by Diug and Kendal (2017) focused on the impact of social media in raising awareness of public health issues among tertiary students engaged in health-related degrees. It provides practical suggestions for educators interested in using social media for pedagogical and communication purposes. Students that are immersed in technology and social networking have different facilities and difficulties that educators would do well to address carefully and critically employ (Bauman et al. 2014).

These findings were compatible with a study on millennials conducted by Richardson (2016), which shows that millennials increasingly oppose abortion, even if they don't identify it as "pro-life." In the 2008 American National Elections Study (ANES), some respondents were asked whether abortion should be permitted in a series of different circumstances (similar to the GSS format), while others were asked a single summary abortion question. The study found out that the drop in support for abortion rights among the Millennial Generation is only statistically significant when preferences are measured with questions about a series of specific conditions. Young people's abortion preferences are especially relevant. Not only could they have direct effects of politics, but they also may foreshadow larger future changes in overall opinion (Wilcox & Carr 2010).

Findings also show that the millennial students were aware that a woman's uterus could be used for the purpose of implanting and carrying an embryo to deliver a baby for another person or couple (surrogacy), although this is not a common procedure in the Philippines. However, surrogate companies are now gradually providing Filipina women with a way to provide for their own families by helping other couples have children (Mundo, 2012).

In terms of euthanasia, most millennials are aware that people can intentionally end life through medical procedures to relieve pain and suffering. Euthanasia is a word coined from Greek in the 17th century meaning "well death." Euthanasia, then, is inducing the painless death of a person who is severely debilitated for reasons assumed to be merciful, either through voluntary, non-voluntary, involuntary means (Hendin, 2004). Despite the fact that majority of the Filipinos value the Christian doctrine as the foundation of their conviction, it is still practiced by some, mostly are from the poor segment of the country. Euthanasia is also loosely called as a *mercy-killing*, assisted suicide, or doctor-assisted suicide. While some people believe that euthanasia is just a matter of ending life painlessly, many people (especially those who support bioethics)

believe otherwise. Euthanasia challenges the belief that is concerned with the sanctity and equality of all life forms. Furthermore, it is believed to corrupt the practice of medicine as well as undermine the value of suicide prevention.

Results of the study show that the majority of the millennial students are aware that desired heritable characteristics of parents can be selected to improve future generations. This supports the article that imparted that eugenics endured through population control policies in the Philippines, as is the case in other Southeast Asian countries (Connelly, 2009). Eugenics became very popular when Adolf Hitler ordered the killing of disabled and medically unfit people as well as the murdering of the Jews. With the advancement of science and technology, many people fear that another era where the principle of genetics will prevail. Ethical issues about eugenics are concerned with the moral principle associated with racial equality and the subjective belief on perfection.

Most of the millennial respondents are knowledgeable about organ donation and transplantation as well and that the processes can compromise the health and the life of the donors. This is compatible with the study of Uriarte et al. (2012,) who found out that the majority of the people knows about organ donation. Despite being almost common, the practice of donating or receiving an organ seems to give rise to ethical issues. A study aimed to evaluate the knowledge and the ethical issues surrounding organ transplantation and organ donation among healthcare personnel in Tehran, Iran. The author concluded that there is a need for more educational programs for the improvement of knowledge and ethical consideration with regard to organ transplantation and organ donation among healthcare personnel (Abasse et al., 2018).

Lastly, most of the millennial undergraduate students are aware of in-vitro fertilization (IVF). This case may be reasonable since the facilities and processes to do the procedure are costly, and most Filipinos are oriented with Christian values. It is also important for couples to understand that IVF is in no way a guarantee that a couple will be able to have a baby. Artificial wombs mimic the conditions inside a mother's body, providing a safe and secure place for a fetus to develop. The wombs are currently being looked to for premature babies or those who would not be carried to term if done biologically. Scientists grapple within the artificial womb discussion two ethical issues. First, a clear connection occurs between mother and child in the womb that cannot be replicated by an artificial womb. The bonding intensifies a mother's protective nature and develops the child's attachment to its mother. Second, artificial wombs may open a Pandora's Box of population control and manipulation that can continue without restraint (Human Fertilisation & Embryology Authority, 2014).

### ***Implications of the Respondents' Level of Awareness on Bioethical Practices and Issues***

Medical science faces ethical dilemmas today that were once considered at the very edge of imagination years ago. Advances in medical research, paired with incredible technological leaps, created a marriage of biology and technology that has the power to transform humanity for the better or to generate devastating consequences for mankind. Findings reflect that millennial undergraduate students are highly aware of the existence of bioethical practices and issues in modern society. They project the challenges faced by today's generation regarding the rights to life and health, the rightness or wrongness of certain developments in healthcare, and life technology which affect the unborn, the young, and the aging. The conventional wisdom is that young people are strongly pro-choice, and the millennials are quickly becoming the most prevalent generation of medical learners. These individuals have a unique outlook on education and have different preferences and expectations as compared to their predecessors (Desy, Reed, & Wolanskyj, 2017).

## **CONCLUSIONS**

Most of the millennial undergraduate students, specifically those taking up Education and Nursing bachelor degree programs, are highly knowledgeable of the meaning and existence of bioethical practices (abortion, surrogacy, euthanasia, eugenics, organ donation/transplant, and in-vitro fertilization) in the present society and are highly aware of how these practices and advancements in modern science lead to the emergence of new bioethical issues. However, students taking up other programs such as Criminology, Information Technology or Hospitality and Tourism Management are less aware of the bioethical issues brought about by modern medical practices. Since they are known to be the generation that is much exposed to technology, it is assumed that they are more prone to exploring different possibilities given the continuous advancements in technology affecting the medical world and give rise to questions on morality and ethics.

Implications of this study point to the necessity of including bioethics in the tertiary curriculum for all degree programs, considering the emergence of new social issues about medical science. The researcher found strong evidence that young people are becoming more pro-life. The Millennial cohorts belong to the latter part of the twentieth century, which is the era of global generations with advanced communications technology and increasing interactivity. They are

exposed to modern media technologies which have the potential for creating global generational consciousness, exposing traumas happening globally (Edmunds & Turner, 2005). Therefore, it is necessary to educate them on bioethical concerns as medical advancements affecting humanity arise rapidly.

## TRANSLATIONAL RESEARCH

Millennials are the driving force in shaping the future of the next generation (White, 2016). Their high level of awareness on bioethical practices and issues pose challenges for educators to provide strategies to improve the way they regard current medical practices and how these affect their ethical decisions in life. The millennial cohorts (Howe & Strauss, 2003) are known to possess an intuitive sense in understanding technology, bringing a much more creative and innovative approach to solving problems than any of the previous generations. Considering this, the author has integrated the findings of this study in her syllabi for the courses in Guidance and Counseling, Research in Psychology, and Criminological Research, which she is currently teaching.

Based on the findings in this study, the researcher agrees with Darryl Macer (1999) that ethics education and respect for life must reach all people in all levels—from as early as high school up to the professional level. There is still a need to reinforce awareness among millennials and develop their understanding of bioethics as respect for life which can help them make ethical choices when they experience difficult dilemmas in life. One way is to expose undergraduate students to the Bioethics course, which discusses science, ethics, and the legal aspects from an international perspective and focuses on making decisions in a balanced and rational way.

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