



A QUANTITATIVE STUDY ON LATE TEENAGE PERSPECTIVES ON FREE WILL AND DETERMINISM

Elyse Kylee S. Pattai

*Senior High School Department, Living Stone International School,
Angeles City, Philippines*

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ABSTRACT

This study examines the correlation between beliefs on personal agency, causes for beliefs on personal agency, and specific factors, namely, the importance of religion at school, in daily life, consumption of media that discusses personal agency, academic strand, and regular use of social media, based on survey design- data for this study has been gathered via a distributed survey to Senior High School students in the Philippines. To correlate factors, this study, which used a quantitative design, utilized Pearson's r correlation and descriptive statistics to identify frequencies. It was found that there was no statistically significant correlation, and thus, this study concludes that there are varying correlations between beliefs on personal agency and causes for those beliefs beyond the importance of religion, media consumption, and regular usage of social media.

Keywords: *free will, determinism, personal agency, adolescence, social media*

INTRODUCTION

Long debated is the nature of personal agency- the control one has over their actions. Free will is the concept of having power over one's actions, and determinism is the concept of one's actions being dictated by circumstances external to the will, such as the laws of nature and predestination. Compatibilism integrates aspects of both belief systems to offer a solution to the problems of personal agency (Stanford Encyclopedia of Philosophy, 2022, 2023, 2024). One's scientific understanding might influence one's views on human agency, as scientific reasons that influence one's views on free will include the readiness potential (Bereitschaftspotential), the buildup of neural activity

before one makes a decision, first reported by neurologists Hans Helmut Kornhuber and Lüder Deecke (Kornhuber and Deecke, 1965, 1115-1124; Libet et al., 1983, 623-642; Pedroso et al., 2020, 1267-1268). The readiness potential has influenced discussions of free will by being used to disprove it through experiments conducted by Benjamin Libet, whose findings suggest that decisions are first made unconsciously and later made conscious. However, Totland (2021, 125-133) deconstructed these findings, citing mereological fallacies and arguing that such studies do not disprove the idea of free will. Previous studies have indicated that the more religious one is, the more likely they are to believe in free will; it has been suggested that, on the contrary, religiosity and belief in determinism are positively correlated. (Lewis, 2021) Various religions, branches, and sects have differing beliefs on free will and determinism. Heathenry, a neo-Pagan religion based on Norse and Germanic Paganism, has the concepts of *wyrd* (in modern contexts, *wyrd* is the concept of how our actions are connected and therefore, affect our surroundings) and *orlæg* (*orlæg*, roughly translating to “first law” (The Longship, 2024) is the predetermined circumstances that result from our actions and how they affect our surroundings- that is, *wyrd*). Practitioners of Heathenry mostly have deterministic beliefs due to the aforementioned concepts, with some believing that free will is nonexistent as everything is determined by causality, and some integrating beliefs in free will by accepting that while causality determines situations, the role of human agency is seen as a core component of that causality (The Troth, 2024).

Various branches of Christianity have differing views on free will. Calvinism, also known as Reformed Christianity, does not wholly believe in free will, but believes in a predestined view, a form of theological determinism, in which Calvinists believe that God has chosen to give salvation to those he chooses (Christianity.org, n.d), and decides on what happens in the future (Lam and Cole, 2020), a fatalistic (Stanford Encyclopedia of Philosophy, 2023) worldview. Arminianism, a Protestant Christian movement, believes in libertarian free will, the idea that determinism is wholly incompatible with free will (unlike compatibilism), and that preceding circumstances do not affect one’s choices in life. Roman Catholicism, one of the three major denominations of Christianity aside from Orthodox Christianity and Protestantism, and the largest Christian denomination (Zurlo et. al., 2024), believes in free will as what characterizes “properly human” acts, attaining “perfection” in performing religious work, and allowing for taking responsibility for one’s actions. However, the Catechism of the Catholic Church acknowledges that psychological and social factors can nullify responsibility for one’s actions. (CCC, 1997, para. 1731; 1732; 1734; 1735)

This study will be conducted in the Philippines, where a majority of its citizens (approx. 93%) are Christian (International Center for Law and Religion Studies, n.d), and 73% of Filipinos believe in the importance of religion, according to a survey conducted by Silver et al. (2025) for the Pew Research Center. Antonio (2025, 46-65) found that Filipino Gen Z still exhibit positive reactions to religion and religiosity, and a related study on the topic of Filipino youth and religion, conducted by Cortes and Ramirez (2025, 377-405), found that Filipino youth, including Gen Z Filipinos, still see religion as important in their lives, being theistic and prayer-oriented. By late adolescence, the human mind can think abstractly, consider multiple worldviews, and process complex information (Stanford

Medicine Children's Health, n.d.). These findings will be considered in how youth within the locale understand and perceive human agency, as philosophy is considered a “difficult subject” due to its complex subject matter (*Why Study Philosophy?*, n.d.), and religion, including the beliefs and teachings of the religion in question, is shown in these studies to be ingrained in the lives of a majority of Gen Z within the locale. Gen Z, born 1997-2012, of which this study’s demographic consists, is dubbed “digital natives”, being a generation to grow up in a society where the internet has become deeply integrated into daily life. 97% of teenagers from the United States have reported daily use of the internet (Faverio and Sidoti, 2025), and social media use has become prevalent, with 77% of high school students, also in the United States, reporting usage of social media several times a day (Young et al., 2024). Despite that, social media, regularly used by teenagers, can influence how one processes complex topics, such as the ideas of free will and determinism. With the algorithms that curate one’s feeds and the phenomenon of “echo chambers”, environments where a shared narrative is reinforced (Cinelli et al., 2021), social media perpetuates black and white thinking, limiting the ability to parse and tackle nuanced, complex topics, even in young adults (Benett, 2024).

As dichotomous thinking becomes prevalent, how can youth parse complex topics, such as the control we have over the decisions we make? What influences those beliefs the most, and what is significantly correlated with such beliefs?

Research Questions

Despite the mind being able to process complex information and think abstractly by late adolescence (Stanford Medicine Children's Health, n.d.), the regular use of social media, as previously stated, could promote black-and-white thinking. (Benett, 2024) Gen Z, being “digital natives”, use social media regularly, making them highly susceptible to black-and-white thinking, putting into account how black-and-white thinking is a regular trait in youth. The Department of Education (DepEd) has added Introduction to Philosophy Of The Human Person in the senior high school curriculum to encourage critical thinking, problem-solving, reflective thinking, and decision-making skills in youth. (Department of Education, n. d.) Philosophical topics- such as the existence of free will or determinism- are introduced to youth, and are a part of allowing for youth to process complex information. With the prevalence of social media use among Gen Z and its perpetuation of black-and-white thinking, as well as prior exposure to metaphysical concepts, how do youth parse such complex topics in the digital age, and which stance are they most likely to take?

Literature exploring youth perspectives on such topics is limited, and, given the previously stated factors, this study will be conducted to contribute to the existing literature on youth philosophical stances and to explore how late adolescents parse complex topics.

METHODOLOGY

Participants

Respondents for this study are senior high school (grades 11-12) students in the Philippines, of all strands, aged around 15-18 years. As previously stated, this study will focus on how Gen Z, labeled “digital natives”, perceive personal agency in the age of social media, and which contributes most to a youth’s beliefs on personal agency. Snowball sampling (Ungvarsky, 2025) and purposive sampling (Tajik et al., 2025) are used to obtain participants from a variety of institutions, expanding perspectives on personal agency in youth.

Research Locale

This study will be conducted in the Philippines, as religion there is seen as being of great importance (Silver et al., 2025) and Filipino youth exhibit positive attitudes towards religion (Antonio, 2025; Cortez, 2025), which is, in this study, a factor in beliefs on personal agency, aside from one’s scientific and philosophical understanding. Approximately 93% of the Filipino population is Christian (International Center for Law and Religion Studies, n.d), with about 83% being Catholic, ranking #3 in a list of countries with large Catholic populations (Catholic World Mission, 2025).

Research Design

Data for this study will be gathered through an online [survey](#), distributed to senior high school students throughout the province of Pampanga, Philippines, as this study will use a quantitative design to correlate the following with beliefs on personal agency, and causes for beliefs on personal agency:

- Academic strand
- Importance of religion in school
- Importance of religion in daily life
- Consumption of media that discusses personal agency
- The regularity of social media usage, as social media could perpetuate dichotomous thinking.

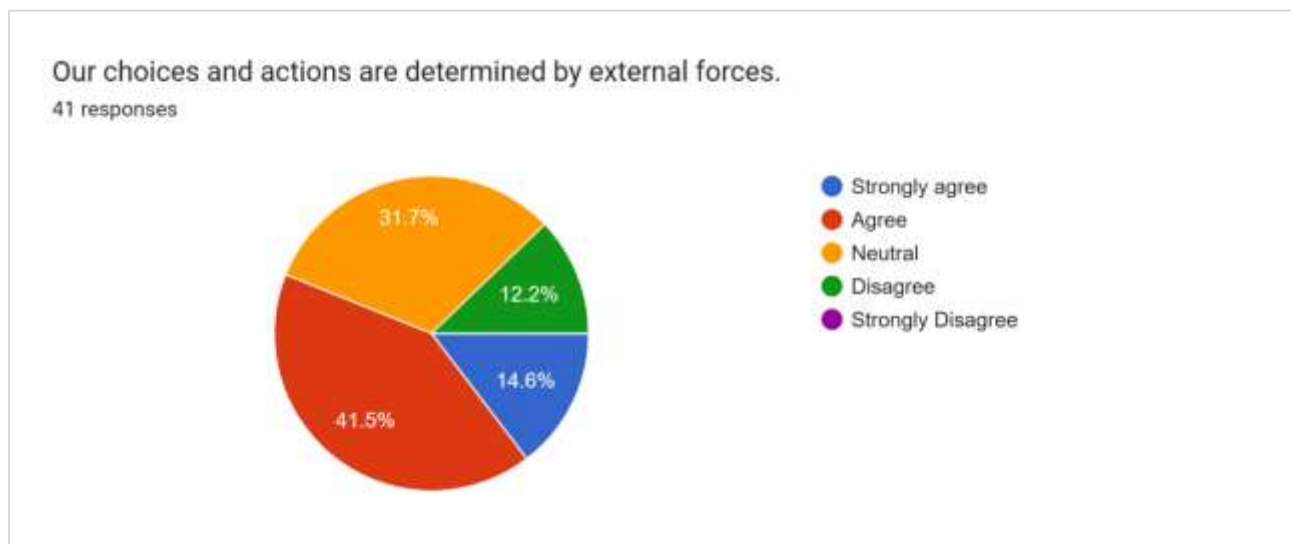
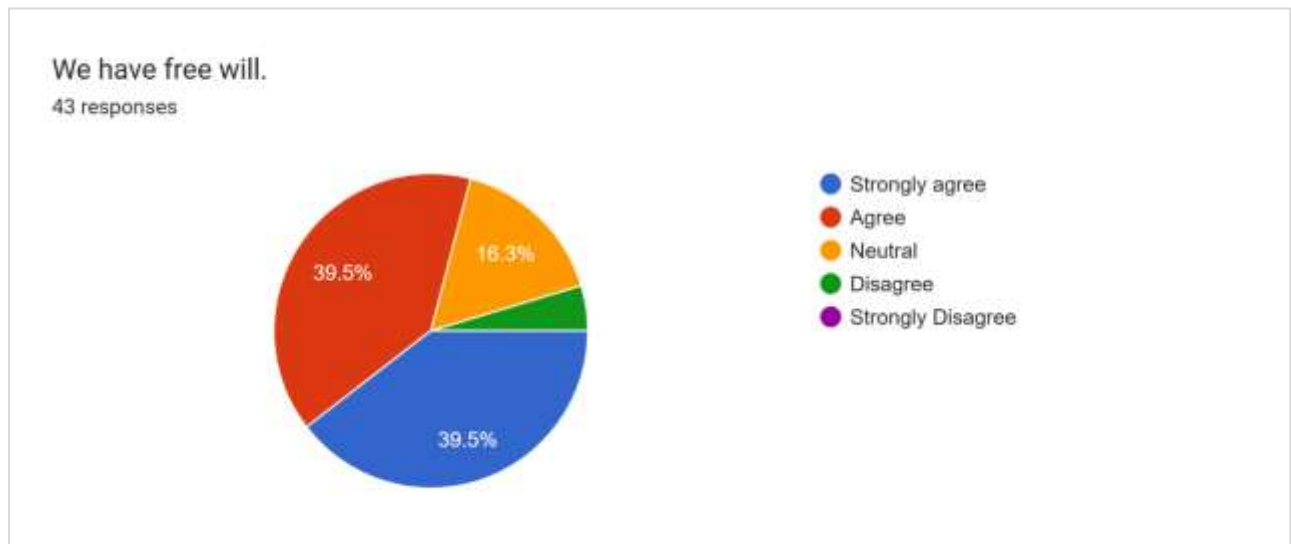
Descriptive methods are used to identify the common belief and common cause for belief. These specific factors have been chosen based on survey design.

This study will use quantitative research, which has been used in the social sciences (Davies, 2020), to gather numerical data, such as in the exploration of the relationship between duration of sleep and subject-specific academic performance (Wang et al., 2025). Quantitative research will allow for accuracy, objectivity, and a larger sample size, whilst enabling in-depth exploration of topics through statistical analysis, hypothesis testing, and the identification of patterns, trends, significant differences, and associations within datasets through various tests and processes. This study utilizes Pearson's

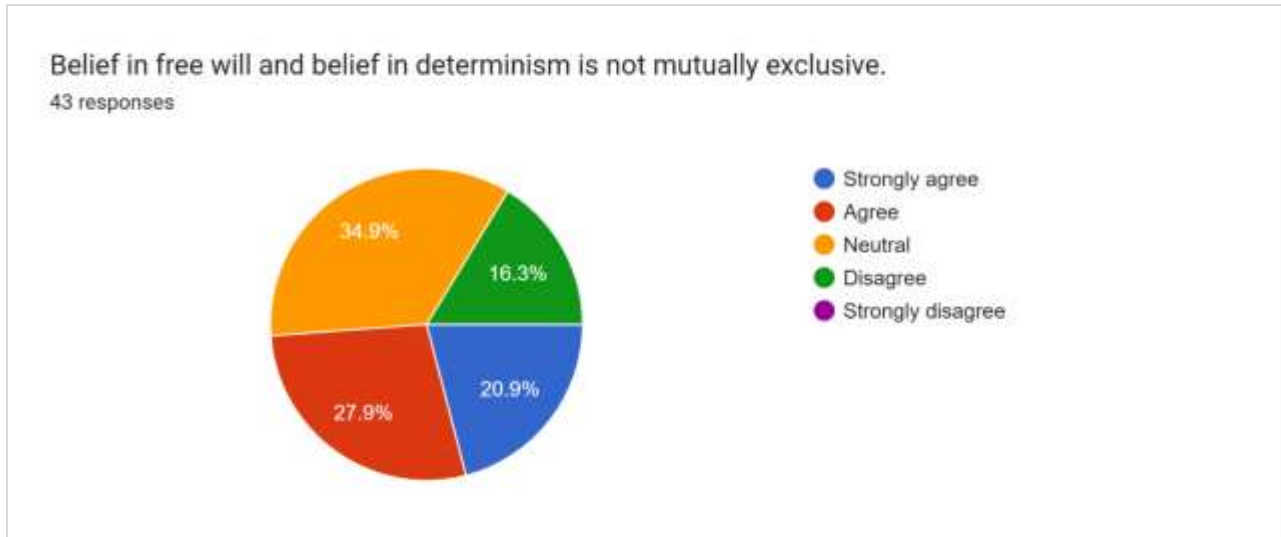
correlation and descriptive statistics, and software such as Jamovi and websites like StatsKingdom.

RESULTS

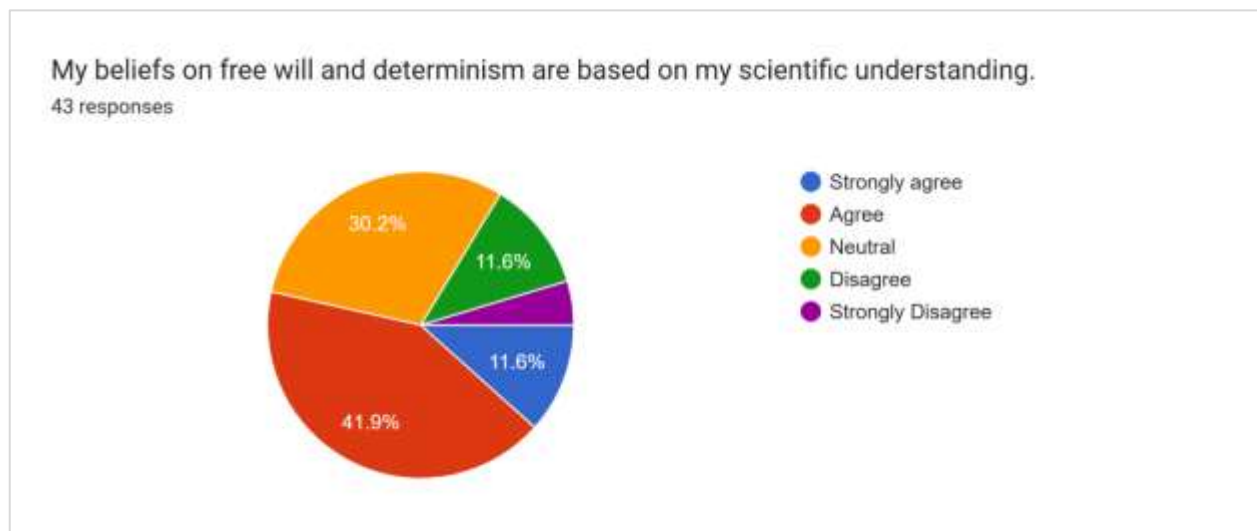
Data from 43 respondents- 25 being in Grade 11 and 18 being in Grade 11, was gathered via an online survey. The results suggest a majority of respondents believe in (17, and another 17 out of 43 respondents answered that they “strongly agree” or “agree” with the statement “We have free will.”) free will.



However, respondents who have answered that they agree with the idea of free will have answered that they believe that actions can be determined by external forces. 41 out of 43 participants have chosen to answer the question- a majority (17/43) agrees, suggesting a worldview that integrates principles of both free will and determinism. However, a few respondents who have agreed with both ideas of free will and determinism have answered “disagree” when asked if beliefs in free will and determinism are not mutually exclusive.

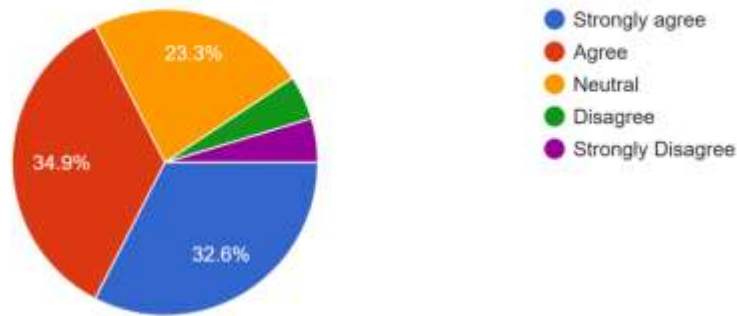


The most common root of beliefs on human agency is, based on survey results, one’s personal beliefs, followed by scientific understanding and religion. Unlike the results from the studies conducted that suggest positive reactions to religion in youth within the locale (Cortes and Ramirez, 2025; Antonio, 2025), there was a significant amount of disagreement and neutrality when participants were asked the reasons for their beliefs, and were shown with the option to choose religious roots for philosophical beliefs.



My beliefs on free will and determinism are based on my personal philosophical beliefs.

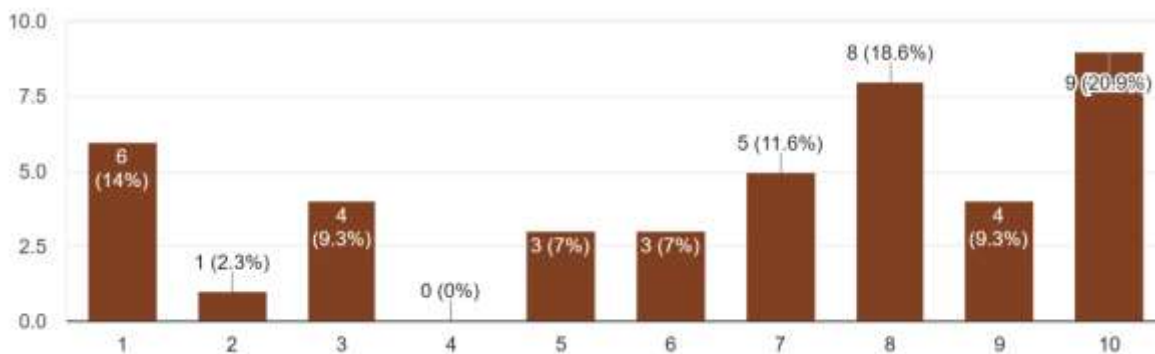
43 responses



When asked about the importance of religion in their daily lives and schools, religion was found to be important at a majority (a combined 28 on 8-10 in the range) of respondents' schools and daily lives, though some respondents found religion not to be important in their daily lives, as it was important at school.

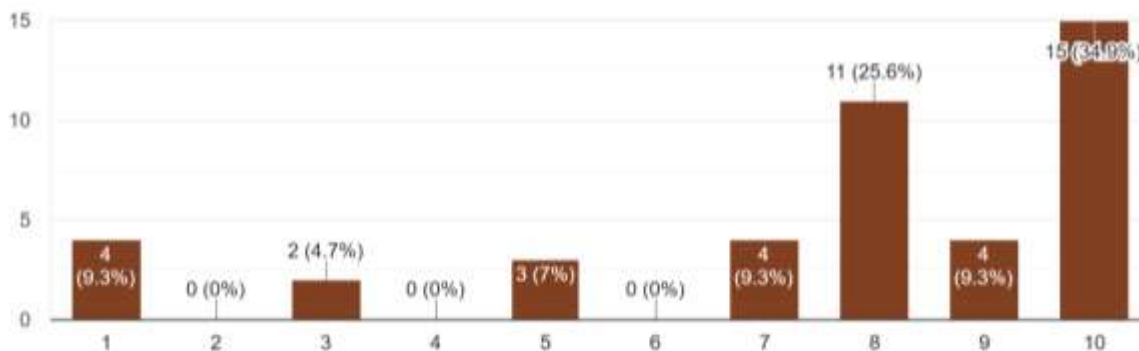
How important is religion in your daily life?

43 responses

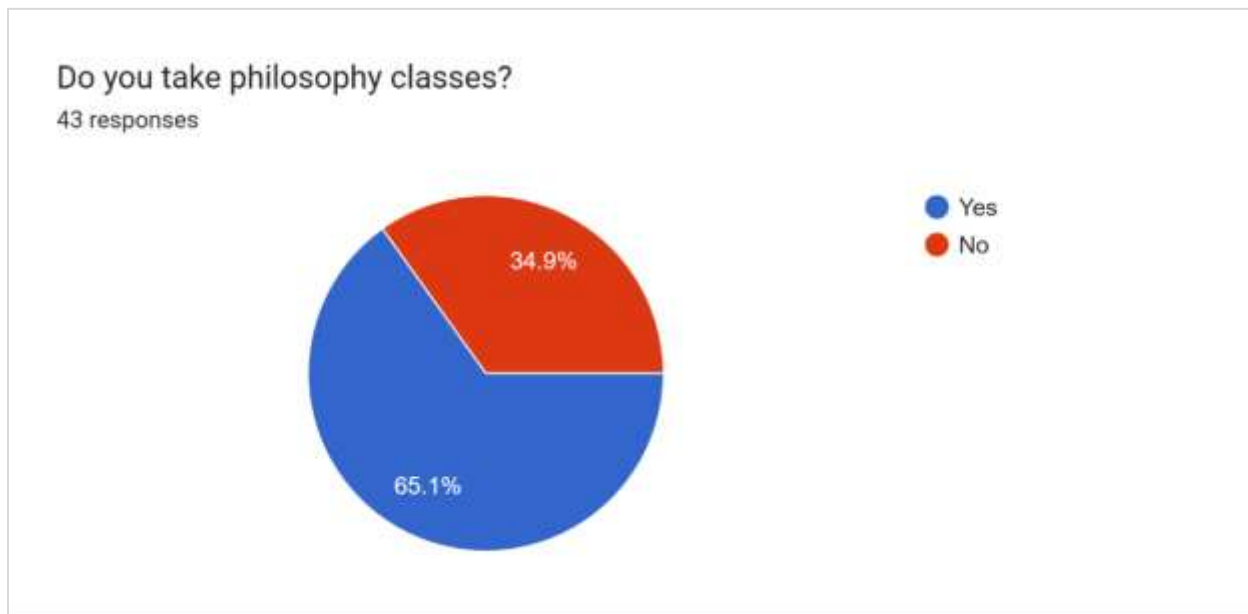


How important is religion to your school?

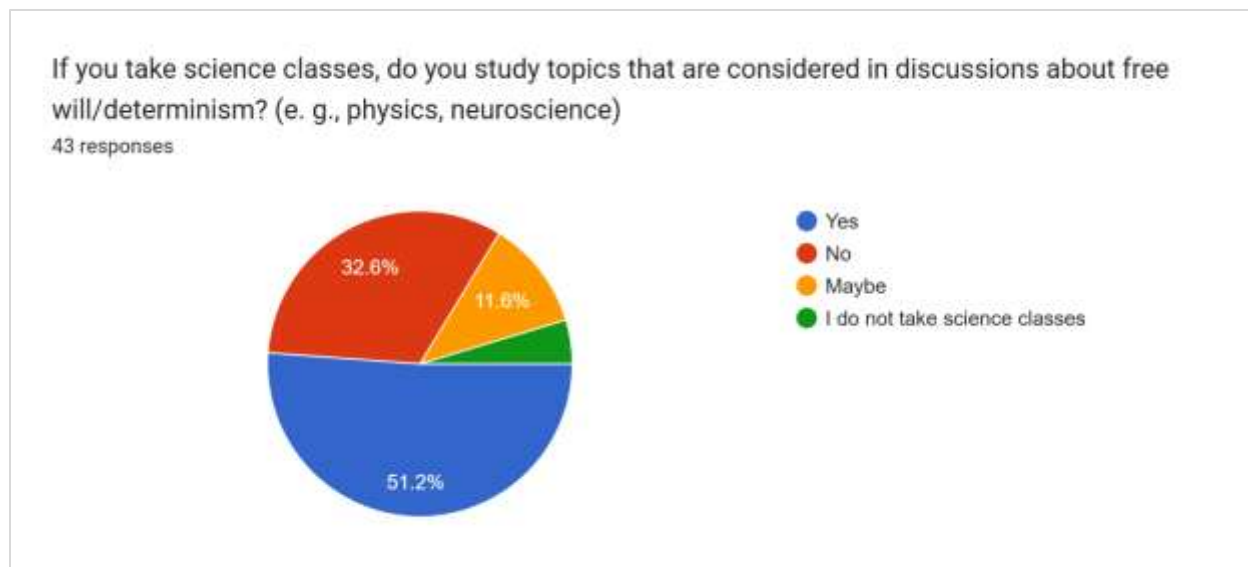
43 responses



Philosophy classes are taken by 65.1% of respondents, while science classes that discuss topics considered in discussions about personal agency through a scientific basis are taken by 51.2% of respondents.

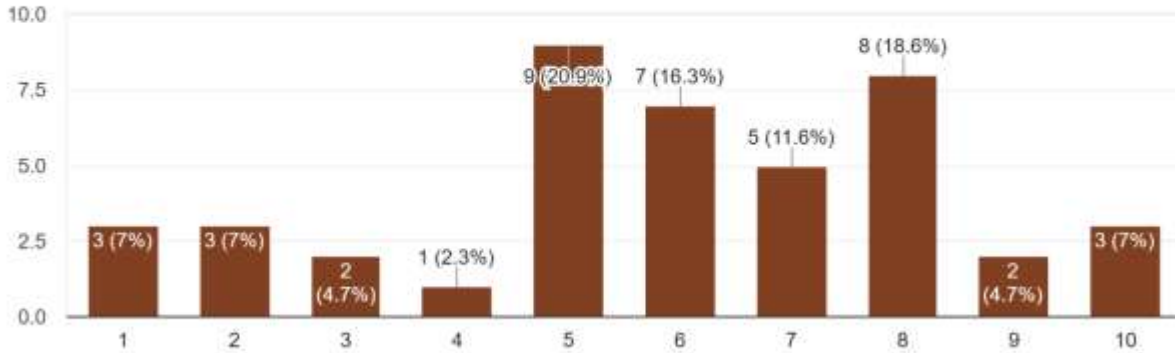


Media that discusses topics related to human agency is consumed regularly by a combined 30.3% of participants, and a combined 25.6% of respondents agree with the statement that their feeds on social media revolve around philosophical content.



On a scale of 1 to 10, how regularly do you consume media that discusses the topics of free will and determinism? (note: if someone who is a fan of exi...ould take this, they might answer with 8, 9, or 10.)

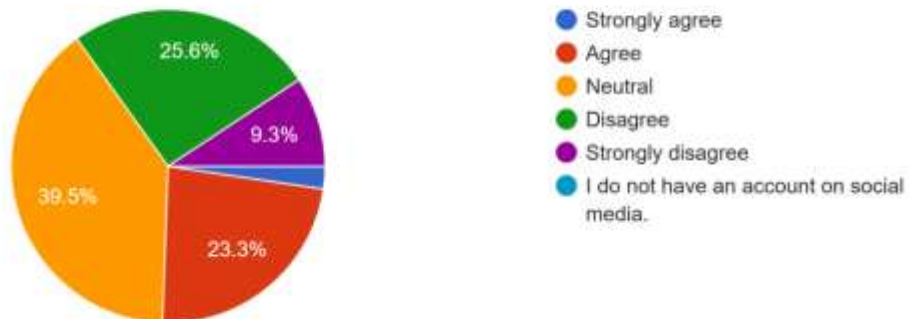
43 responses



A combined 79% of participants think about the control they have over the choices they make in life, and a combined 74.4% agree with the statement that one's opinions on free will and determinism are based on how one defines the terms.

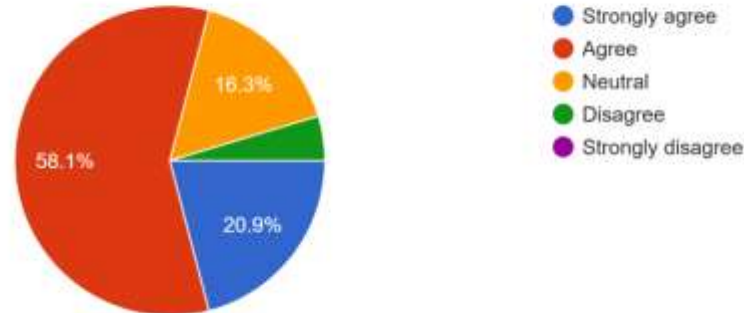
My feed on social media revolves around posts related to philosophy.

43 responses



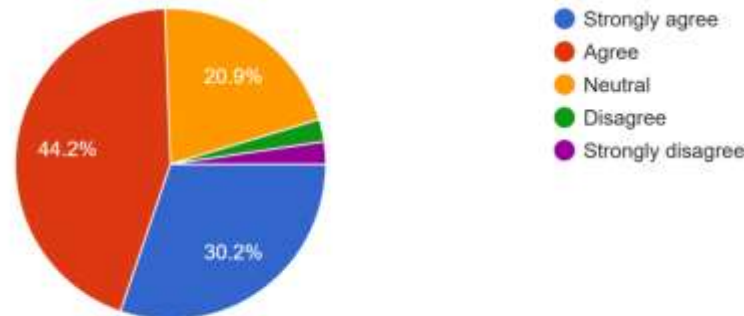
I think a lot about the control we have over the choices we make in life.

43 responses



One's opinions on free will and determinism are based on one's definitions of free will and determinism.

43 responses

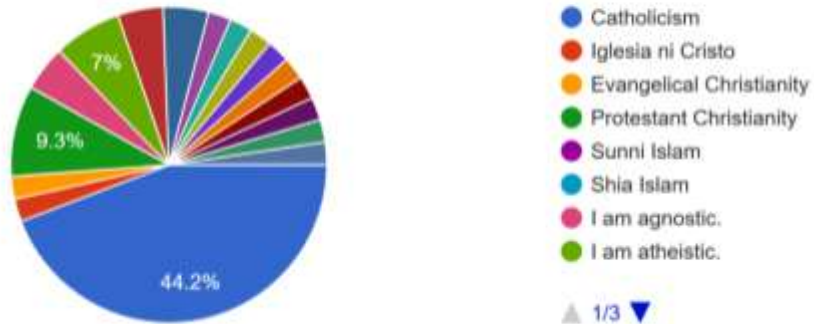


For demographic information, while a majority of respondents were Catholic, respondents were of various beliefs, and mostly attended private schools in the STEM strand. 18 participants were in Grade 12, and 25 were in Grade 11.

97.6% of participants have a social media account, and a combined 37.3% of respondents have their feeds on social media revolve around a singular topic, putting into discussion echo chambers in social media and their implications for multifaceted thinking.

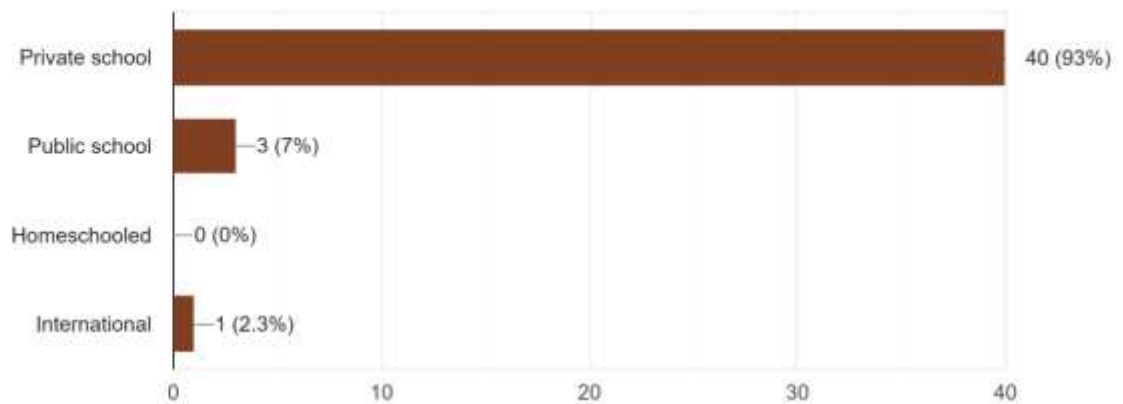
Which of these do you follow?

43 responses



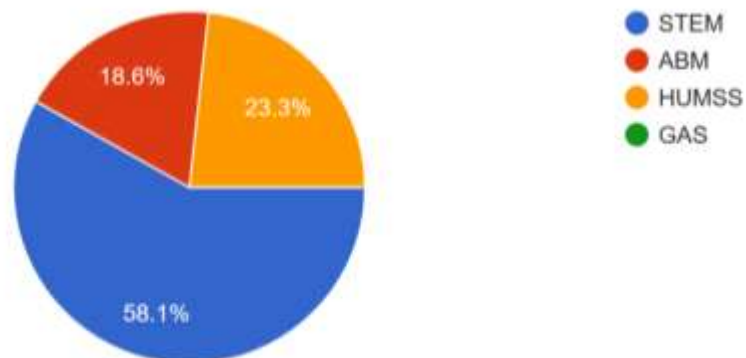
What kind of school do you attend?

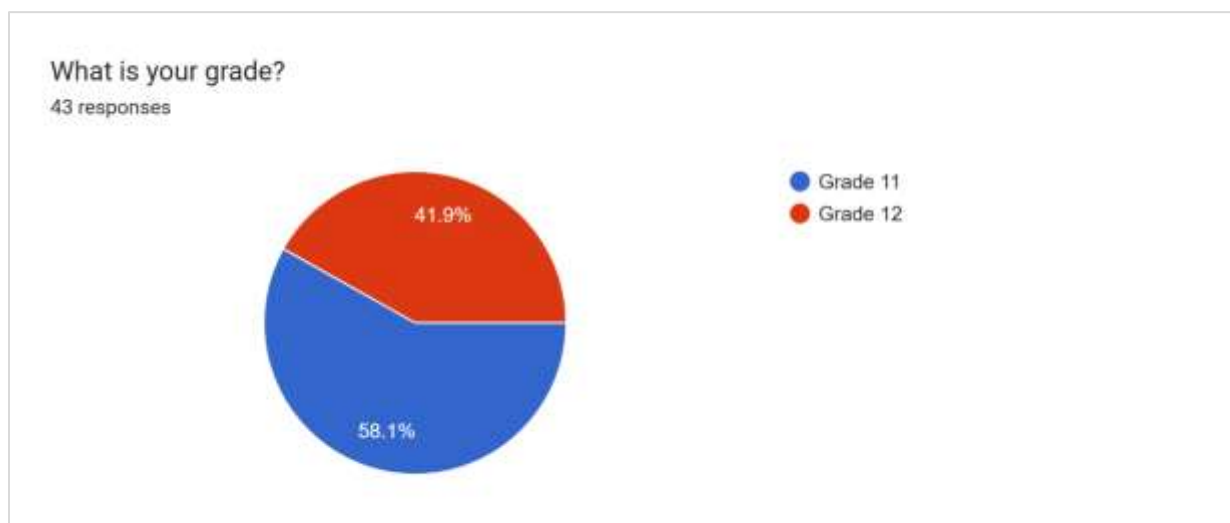
43 responses



What is your academic strand?

43 responses





This study hypothesized that:

(H0) There is no *statistically significant* correlation between beliefs on personal agency, causes for beliefs on personal agency, and:

- importance of religion in daily life and school
- regular usage of social media
- consumption of media that discusses such topics
- academic strand

(HA) There is a *statistically significant* correlation between beliefs on personal agency, causes for beliefs on personal agency, and:

- importance of religion in daily life and school
- regular usage of social media
- consumption of media that discusses such topics
- academic strand

To confirm either hypothesis, a correlation test using Pearson's r coefficient (Schober et. al., 2018) was used to determine the relationship between beliefs on personal agency, reasons for beliefs on personal agency (variable a), and factors such as strand, importance of religion in daily life and in school, consumption of media that discusses personal agency, and regularity of social media usage (variable b). The data were analyzed using Jamovi and StatsKingdom.

Correlation Matrix

			Importance of religion - daily life	Importance of religion - school	Consumption of media with ontological topics	Social media regularity	Beliefs	Causes for beliefs	S t r a n d
Importance of religion - daily life	Pearson's r	—							
	df	—							
	p-value	—							
	N	—							
Importance of religion - school	Pearson's r	0.448**	—						
	df	41	—						
	p-value	.003	—						
	N	43	—						
Consumption of media that discusses personal agency	Pearson's r	-0.166	0.276	—					
	df	41	41	—					
	p-value	.287	.073	—					
	N	43	43	—					
Social media regularity	Pearson's r	0.330*	0.348*	0.034	—				
	df	41	41	41	—				
	p-value	.031	.022	.829	—				
	N	43	43	43	—				
Beliefs	Pearson's r	-0.219	0.109	0.236	0.021	—			
	df	41	41	41	41	—			
	p-value	.158	.488	.127	.893	—			

	N	43	43	43	43	—		
Causes for beliefs	Pearson's r	0.214	0.005	-0.231	-0.131	-0.063	—	
	df	41	41	41	41	41	—	
	p-value	.167	.975	.136	.402	.689	—	
	N	43	43	43	43	43	—	
Strand	Pearson's r	0.251	-0.016	-0.212	-0.259	-0.171	0.135	—
	df	41	41	41	41	41	41	—
	p-value	.105	.919	.173	.094	.273	.387	—
	N	43	43	43	43	43	43	—

Note. * p < .05, ** p < .01, *** p < .001

Following this test, the data has also been analyzed through StatsKingdom, which provided the following results:

Beliefs

- Results of the Pearson correlation indicated that there is a non-significant, small negative relationship between Belief and Importance of religion - daily life, ($r(41) = .219$, $p = .158$).
- Results of the Pearson correlation indicated that there is a non-significant, small positive relationship between Belief and Importance of religion - school, ($r(41) = .109$, $p = .488$).
- Results of the Pearson correlation indicated that there is a non-significant, small positive relationship between Belief and Consumption of media that discuss personal agency ($r(41) = .236$, $p = .127$).
- Results of the Pearson correlation indicated that there is a non-significant, very small positive relationship between Belief and Social media regularity ($r(41) = .0211$, $p = .893$).
- Results of the Pearson correlation indicated that there is a non-significant, small negative relationship between Belief and Strand ($r(41) = .171$, $p = .273$).

Causes for beliefs

- Results of the Pearson correlation indicated that there is a non-significant, small positive relationship between Causes for beliefs and Importance of religion - daily life ($r(41) = .214, p = .167$).
- Results of the Pearson correlation indicated that there is a non-significant, very small positive relationship between Causes for beliefs and Importance of religion - school, ($r(41) = .00486, p = .975$).
- Results of the Pearson correlation indicated that there is a non-significant, small negative relationship between Causes for beliefs and Consumption of media that discuss personal agency ($r(41) = .231, p = .136$).
- Results of the Pearson correlation indicated that there is a non-significant, small negative relationship between Causes for beliefs and Social media regularity ($r(41) = .131, p = .402$).
- Results of the Pearson correlation indicated that there is a non-significant, small positive relationship between Causes for beliefs and Strand ($r(41) = .135, p = .387$).

To determine the means- the arithmetic average of a numerical data set, and rates at which people believe in free will, determinism, or compatibilism, a descriptive analysis with frequency tables was also used.

Descriptives

	Beliefs	Strand	Religious belief	Grade	Causes for beliefs
N	43	43	43	43	43
Missing	0	0	0	0	0
Mean	8.6	2.40		11.4	4.28
Median	9	3		11.0	3
Standard deviation	2.58	0.791		0.499	2.28
Minimum	4	1		11.0	2
Maximum	11	3		12.0	9

Frequencies

Frequencies of Beliefs

Beliefs	Counts	% of Total	Cumulative %
Libertarian	5	11.6%	11.6%
Libertarian leaning	8	18.6%	30.2%
Libertarian (possibly)	2	4.7%	34.9%
Neutral	3	7.0%	41.9%
Determinist leaning	4	9.3%	51.2%
Determinist	2	4.7%	55.8%
Compatibilist	19	44.2%	100.0%

Frequencies of Strand

Strand	Counts	% of Total	Cumulative %
ABM	8	18.6%	18.6%
HUMSS	10	23.3%	41.9%
STEM	25	58.1%	100.0%

Frequencies of Religious belief

Religious belief	Counts	% of Total	Cumulative %
Catholicism	19	44.2%	44.2%
Methodism	2	4.7%	48.8%
Mormonism	1	2.3%	51.2%
Born-again Christian	4	9.3%	60.5%
Unlabeled	1	2.3%	62.8%
Agnosticism	2	4.7%	67.4%
Protestant Christianity	4	9.3%	76.7%

SBNR	1	2.3%	79.1%
Atheistic	3	7.0%	86.0%
"			
Neutral Christian?"	1	2.3%	88.4%
Iglesia ni Cristo	1	2.3%	90.7%
Christianity	1	2.3%	93.0%
Evangelical Christianity	1	2.3%	95.3%
Sikhism	2	4.7%	100.0%

Frequencies of Causes for beliefs

Causes for beliefs	Counts	% of Total	Cumulative %
Scientific Understanding + Personal Beliefs	15	34.9%	34.9%
Religion + Scientific Understanding + Personal Beliefs	7	16.3%	51.2%
Religion	1	2.3%	53.5%
Personal Beliefs	7	16.3%	69.8%
Religion + Personal Beliefs	4	9.3%	79.1%
Scientific Understanding	3	7.0%	86.0%
Unknown	5	11.6%	97.7%
Religion + Scientific Understanding	1	2.3%	100.0%

Through this descriptive analysis, it was found that:

- Compatibilism, with 19 respondents whose answers suggested compatibilistic beliefs, out of a total of 43, is what is believed by a majority of respondents. The frequency of belief in compatibilistic worldviews is 44.2%.
- The most chosen reason for beliefs is scientific understanding + personal beliefs (15/43). The Pearson correlation indicated that there was a statistically insignificant, but small positive correlation between academic strand and reasons for beliefs ($r(41) = .135$, $p = .387$).

These results indicate that beliefs about personal agency are influenced by various factors, including science, religion, and one's understanding of philosophy, and are insignificantly correlated with the importance of religion at school and in daily life, the consumption of media discussing personal agency, and the regularity of social media use. These correlations are insignificant because the p-values exceed the significance level (StatsKingdom has deemed the results statistically insignificant).

Therefore, the null hypothesis is not rejected. The statistical insignificance of these results indicates that beliefs about personal agency and its causes and correlates are diverse and vary across youth, with no generalizable findings.

DISCUSSION

The statistical insignificance of the correlations shows that what correlates with such beliefs and their causes can be more than just the importance of religion at school or in daily life, time spent on social media, and consumption of media with such topics. The problem of free will has been debated for centuries, with various solutions offered by philosophy, science, religion, and many more. Some say that we have control over the actions we take- some believe that sense of control is merely an illusion, if not a myth, and some believe that while we have control over our actions in life, there are external factors that could nullify that.

These previously stated examples aren't the only ways personal agency is parsed- they can be parsed in different ways, and what correlates with youth's perception of the agency we hold as human beings, *homo sapiens*, and why they believe what they believe, is not limited to how regularly one uses social media, the importance of religion at school and in daily life, the rate at which one consumes media that discusses personal agency, and one's academic strand. Alper et al. (2024), as previously stated, found that deterministic worldviews were associated with belief in epistemically suspect beliefs (ESPs- namely, conspiracies, the paranormal, and pseudoscience), the latter mostly being used as a safeguard for the diminished personal agency that comes with determinism. Beliefs on personal agency have also been correlated with cheating and career performance- a 2008 study by Vohs and Schooler correlated a belief in determinism with an increased tendency to cheat on tasks. The study conducted 2 experiments: the first had participants read texts that encouraged deterministic beliefs or neutral texts, and found that exposure to the determinist texts allowed for increased cheating.

The second saw similar results to the first- that participants who read deterministic statements cheated, the participants who read statements that endorsed free will did not. A decade after this study was conducted, Nadelhoffer et al. (2020) conducted a study to further confirm the conclusions of Vohs and Schooler (2008). Nadelhoffer et al. (2020) found that the link between immoral behavior (e.g, cheating) and deterministic beliefs may not be as consistent as suggested by previous literature.

The results of this study and the conclusions drawn by Nadelhoffer et al. (2020) reflect the complex nature of the discussion on personal agency. Stillman et al. (2010) correlated belief in free will with improved career performance and career attitudes in two studies that concluded with the following:

- First, it was concluded that the stronger one's beliefs on free will were, the more positive their attitudes were about career success.

- For the second, a supervisor made objective evaluations about job performance. Employees who espoused beliefs in free will were given better job performance than those who did not.

Stillman et al. (2010) presume that the correlation between belief in free will and improved work performance is due to how belief in free will promotes a sense of control over one's actions. Correlations on personal agency could be due to different factors.

A previously cited study by Kushnir et al. (2015) found that children aged 4-6 years old could understand the concept of free will, and stated the existence of free choice, but not when constraints- epistemic and physical, nullify free choice. By late adolescence, the mind can comprehend multiple worldviews and think in abstract ways (Stanford Medicine Children's Health, n.d.). The results of the study, which show a 19/24 ratio between compatibilists and (presumed) incompatibilists, show a diverse array of beliefs present in youth, which are correlated to and can stem from various sources.

Conclusions

Summary

Correlations of beliefs on personal agency and causes for beliefs on personal agency with academic strand, regularity of social media use, importance of religion at school and in daily life, and consumption of media were found to be statistically insignificant, but varying in terms of the relationship. Very small and small negative relationships have been found with the following:

- Belief and Importance of Religion - daily life, ($r(41) = .219$, $p = .158$).
- Beliefs and Strand, ($r(41) = .171$, $p = .273$).
- Causes for beliefs and Consumption of media that discuss personal agency, ($r(41) = .231$, $p = .136$)
- Causes for beliefs and Social media regularity, ($r(41) = .131$, $p = .402$).

Positive relationships, both very small and small, have been found with the following:

- Belief and Importance of religion - school, ($r(41) = .109$, $p = .488$).
- Belief and Consumption of media that discuss personal agency ($r(41) = .236$, $p = .127$).
- Belief and Social media regularity ($r(41) = .0211$, $p = .893$).
- Causes for beliefs and Importance of religion - daily life ($r(41) = .214$, $p = .167$).

- Causes for beliefs and Importance of religion - school, ($r(41) = .00486$, $p = .975$).
- Causes for beliefs and Strand ($r(41) = .135$, $p = .387$)

These results, small and statistically insignificant, suggest that beliefs on personal agency are correlated with more than just academic strand, the importance of religion at school and in daily life, consumption of media that discuss personal agency, and regularity of social media usage. The lack of a generalizable result, due to mistakes made during the data gathering procedure, might indicate that beliefs on personal agency, their causes, and what correlates remain as diverse as ever.

Recommendations

While this study may provide insight into youth's beliefs about personal agency, future studies with a larger sample size could reveal statistically significant correlations between the importance of religion at school and in daily life, and beliefs about personal agency, as well as their causes. These studies could also further examine the influence of media consumed on beliefs about personal agency. A qualitative study that goes in-depth about this study's topic, with additional factors, could be conducted, as qualitative research is prevalent in the study of social phenomena (Lim, 2024, 199-229). A quantitative study could also be conducted that examines the correlation between factors such as scientific understanding, philosophical knowledge, religiosity in life, and beliefs on personal agency. Future studies could examine differences between respondents who have scientific understanding, personal philosophical beliefs, and religious reasons, as well as combinations of the 3 as backing causes for beliefs in personal agency.

Compliance with Ethical Standards

The researcher ensured that participation in this study was voluntary and that respondents were informed of the purpose of the research prior to participation. No personally identifiable information was collected, and anonymity and confidentiality were strictly maintained. Participants were allowed to withdraw from the study at any time. The study adhered to data privacy standards and ethical research practices. There were no conflicts of interest, and the findings were reported objectively without bias. The results were used solely for academic research purposes.

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