Protection from Anti-Free Speech Persuasion: An Experimental Testing of Inoculation Strategy in Building Resistance to Persuasive Anti-Free Speech Messages among Filipino Youth

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ABSTRACT

With the arguments against free speech birthed by the long-standing political conditions in the Philippines, and the influence strategies including appeals to logic and emotions demonstrated by such anti-free speech messages — the right and value for free speech among the Filipinos appear to face significant threats. Communication scholars and social psychologists alike argue that we now have a crucial need for psychological resistance against various forms of harmful persuasion including anti-free speech persuasion. As a response, this article sought to contribute to the protection of positive beliefs in and values for free speech by testing the effectiveness of inoculation strategy and its two components — threat and refutational preemption — in building resistance to anti-free speech persuasion. Inoculation strategy, as operationalized here, is a belief and attitude protection strategy derived from the principles of William McGuire's inoculation theory. This factorial quasi-experimental research differentiated the effects of various inoculation treatments in inducing resistance among 162 Filipino high school students to simulated anti-free speech messages. Three experimental conditions — full inoculation, threat inoculation, and refutational inoculation — were tested against a control condition where no inoculation treatment was provided to the participants. Results showed that full inoculation, a treatment where both components of the strategy were provided, induced the greatest persuasion resistance and led to the smallest attitude change in the face of anti-free speech persuasion. Threat inoculation, wherein only the threat component was provided, was also found to be effective. The findings of this article further support the possibility of utilizing inoculation strategy in protecting our value for freedom of speech and democracy from anti-free speech persuasion in both global and local contexts.

Keywords: interpersonal communication, interpersonal influence, persuasion resistance, inoculation strategy, free speech.

In the Philippines, the right to free speech is valued mainly because of the democratic nature of the nation's political system. Because of this democratic value, every Filipino is entitled to speak, assemble, and forward grievances without interference through any medium of their choice (Official Gazette). Free speech also has an integral role in developing education, civic-mindedness, culture, and society at large (Jallow). This allows people to use their speech, art, and even social media accounts in imparting information and expressing their opinions that they believe contribute to societal development without the verbal and symbolic interferences from others.

Despite its constitutional legitimacy, the democratic value for free speech that is upheld by the Filipino people has been under threat, for the longest time, by disinformation and misleading anti-free speech persuasion (York and Lacambra). The beginning of the Rodrigo R. Duterte administration back in 2016 incited grave threats to people's freedom of expression, with press freedom being the main

casualty. The countless criticisms against the government system, national policies, and the president himself were wrongly blamed on our right to free speech. Because of this, the former president had moved to "kill" free speech in hopes of silencing the critics and improving the international image of the administration (York and Lacambra). Some popular yet misleading arguments against the right to speak include free speech being the ultimate cause of irresponsible expression, malice, and social chaos (Teodoro and Kabatay; York and Lacambra).

With the arguments against free speech birthed by the long-standing political and cultural conditions in the Philippines, and the influence strategies demonstrated by such anti-free speech messages — the right and value for free speech of the Filipinos in today's Philippines appear to face significant threats. Now, more than ever, Philippine society has to realize the need to protect this value and the attitudes that surround it. May it be in global or local contexts, persuasion scholars and social psychologists alike have concluded that societies now have a crucial need for an induced persuasion resistance or resistance to influence achieved through psychological conditioning (Compton and Pfau; McGuire, "Inducing Resistance to Persuasion").

Inoculation, as introduced in William McGuire's Inoculation Theory, is a belief and attitude protection strategy that can be employed on individuals by providing them two key components — threat and refutational preemption ("Inducing Resistance to Persuasion"). The threat component serves as one's motivation to resist persuasion. When an individual recognizes a potential threat to his beliefs or attitudes, the individual becomes motivated to put up resistant attitudes as defense against the foreseen threats (Compton). The refutational preemption component, on the other hand, serves as one's simulation of the resistance. When an individual is provided with the weaker versions of the persuasive messages, the individual becomes capable of refuting the stronger versions of the persuasive messages on their own in the future (Compton). The theory posits that when an individual who is vulnerable to an upcoming persuasion is provided with these components, threat as the motivation and refutational preemption as the simulation, the individual becomes resistant to the said persuasion (Compton and Pfau, "Inoculation Theory of Resistance").

Ultimately, the objectives of this article revolve around the need to protect people's value for free speech from misleading anti-free speech persuasion. This article seeks to contribute to persuasion resistance and interpersonal influence scholarship by demonstrating the effectiveness of inoculation strategy in inducing resistance to the influence of interpersonal and political messages. This also aims to advance interpersonal communication scholarship by illustrating how inoculation among individuals can regulate and intervene with the flow of influence across interpersonal agents.

Review of Related Literature

This review presents two general themes that are central to the current study: first, developments and applications of inoculation theory and strategy; second, free speech in the Philippines and the larger global society. The first theme is concerned mainly with illustrating how inoculation theory emerged as a response to the recognized vulnerability of personal and social values, beliefs, and attitudes. The section also presents how the strategy is applied in various disciplines and contexts where vulnerability of beliefs and attitudes is a concern. The second theme now explores the dimensions of free speech both as a constitutional right and a social issue in the Philippines and the larger society. This understanding also dictates how free

speech is operationalized in the conceptual framework, research instrument, and experimental procedures.

Developments and Applications of Inoculation Strategy

Inoculation as a belief protection strategy is founded on the assumption that values, beliefs, and attitudes are vulnerable to harmful alterations (McGuire, "Inducing Resistance to Persuasion"). The integrity of this claim is important in inoculation scholarship for there would be no need for a belief protection strategy if there is no vulnerability in the first place. Granted, impersonal attitudes of everyday life can be easily manipulated. What intrigued social influence scholars is the possibility that values and value-relevant attitudes are vulnerable to alterations no less than impersonal attitudes (McGuire, "Inducing Resistance to Persuasion"). In one study testing the endurance of value for justice and equality against attacks, it was shown that these supposedly difficult-to-reach core values of individuals are vulnerable to alterations (Bernard et al.).

With the recognition of value and belief vulnerability, communication scholars have been compelled to explore how individuals can resist persuasive attempts. In one integrative research that sought to synthesize findings from psychology and communication, it was shown that there are three general types of persuasion resistance: outcome, motivated, and induced (Fransen et al.). Outcome resistance results from the inherent ineffectiveness of the persuasion attempt. This may be caused by lapses in language, content, appeal, or credibility of the speaker. In this case, the resistance to persuasion is a passive and natural outcome of the mentioned lapses. Motivated resistance, on the other hand, is more active. This resistance results from various factors such as the target individuals' personal reluctance to change their attitude, their opposing initial belief, and perceived manipulative intent of the persuasion. This resistance is inherent to individuals themselves (Fransen et al.).

Induced resistance is the most active and interactive type of persuasion resistance. As the category's name implies, this resistance is provided or aided by an external source usually through interpersonal interaction. The best example of this type is inoculation strategy wherein an inoculator provides threat and refutational preemption components, as in inoculation theory, in order for a vulnerable individual to exhibit persuasion resistance (Compton, "Resistance to Persuasion"). Although the three types of resistance do not operate exclusively from each other in most situations, various studies would nonetheless forward that induced resistance is the most proactive and effective protection that an individual could have against persuasive attempts (Banas and Rains; Fransen et al.). By openly talking about the potential threats to beliefs and values with an external source through interpersonal interactions, may it be through speech or written medium, the resistance level becomes higher.

A meta-analysis of 54 inoculation studies revealed the superior effectiveness of inoculation in providing resistance to persuasion (Banas and Rains). It was also shown that inoculative messages have effects superior to those of supportive and restorative messages. Inoculative messages, in this context, are those messages that provide resistance to persuasion by preempting counterarguments that refute the arguments of the persuasion attempt. Supportive messages are those that provide resistance to persuasion by providing arguments that support the individual's original belief (Banas and Rains). In other words, supportive messages only strengthen the currently-held belief but do not necessarily refute the opposing ones. Finally, restorative messages are those which do not provide resistance before the persuasion happens,

but do aim to restore the original belief after an individual has been persuaded (Banas and Rains). In this case, restorative messages are only provided once the individuals have already been persuaded, while inoculative and supportive messages are given before the persuasive attempt. The meta-analysis showed that inoculative messages are superior to both supportive and restorative messages. This goes to show that apart from prevention being better than cure, refuting the upcoming persuasive arguments is more effective than simply strengthening the currently-held ones (Banas and Rains).

Inoculation is a jack of all trades. Its protection is not limited to the contexts of politics and commerce; it also offers protective effects in the contexts of public speaking, health, sports, and mass media. One study aimed to test the effectiveness of an inoculation message for reducing the onset of public speaking anxiety and helping presenters interpret their speech-related anxiety more positively (Jackson et al.). The experimental group in this study which consisted of speakers who were given inoculation messages reported significantly lower speech-related anxiety before and during the speech. The control group which consisted of uninoculated individuals, on the other hand, reported higher anxiety levels. This research asserts that inoculation strategy is effective in helping public speaking students cognitively reframe and reduce their anxiety towards public speaking and possibly other stressful situations (Jackson et al.).

Inoculation was also found to be effective in various health communication contexts. In two studies, inoculation was able to help youth resist influence attempts related to smoking and alcohol consumption (Godbold and Pfau; Pfau et al., "Resistance to Smoking Initiation"). By crafting messages that refute persuasion attempts, participants were able to resist such influence attempts typically brought about by peer pressure. Inoculation strategies were also used to inform condom usage campaigns (Parker et al.). Campaigns promoting safe and protected sex were shown to be more effective when they involve threat and refutational preemption components. Inoculation was also used to promote responsible usage of antibiotics. Campaigns that seek to inform audiences about the decreased effectiveness of antibiotics when used irresponsibly gained increased impact when coupled with inoculative messages (Parker et al.). Lastly, inoculation strategy also offered protection against anti-vaccination persuasion (van Der Linden et al.). With the increasing skepticism on the effectiveness and safety of vaccination in recent years, scholars are now compelled and convinced to employ inoculation strategy to combat such anti-vaxxer rhetoric. Inoculation is similarly employed in political communication contexts. In one study examining the political attacks launched during the 2008 United States presidential elections, it is asserted that Barack Obama's victory against John McCain can be partly attributed to his campaign team's usage of inoculation messages to protect voting audiences from anti-Obama rhetoric (Compton and Ivanov).

Free Speech in the Philippines and Beyond

The Republic of the Philippines is a democratic state (Teodoro and Kabatay). Its government is unitary and is headed by the president who is elected directly by the national body of qualified voters every six years and is ineligible for re-election. The Philippine Constitution, under and with which the said government operates, acknowledges free expression and press freedom, although this has not always ensured sufficient protection of these rights especially during the era of Marcos dictatorship. Both free speech and press freedom have long been part of the Filipino sense of freedom, struggle for independence, and revolutionary traditions which stood consistent throughout the earlier versions of the Philippine constitution.

One of the ways to examine the condition of free speech in the Philippines is by looking into press freedom issues. The press and the media occupy a central place in the Philippine society for they enable even the most ordinary Filipino people to form opinions about politics, economy, or culture. But the centrality of free speech and the press does not equate to them being fully protected as evidenced by the socio-political situation in the country.

The Freedom House has reported that the Philippines only has "partial press freedom" —in terms of how the legal, political, and economic environments are supportive of free speech and free press, the country scored 14 out of 30, 20 out of 40, and 10 out of 30, respectively. In addition, while the 1987 Constitution is supposed to protect freedom of speech and expression in the Philippines, it was found that there has been little development of case law on free expression. Journalists who are critical of authorities are often charged with libel or unethical journalism, primarily because the vagueness of the terms in the Constitution allows it (Freedom House).

Another way of looking into the condition of free speech in the country is by examining the so-called "culture of impunity." This is mainly defined as the way some societies ignore, permit, or even encourage various forms of violence against individuals who practice critical journalism and free speech (UNESCO). This cultural concept is used to understand the continuing assassinations of journalists in the Philippines, where the act of silencing individuals, literally and figuratively, has been the authorities' normal reaction (UNESCO).

Once regarded as the country with the freest press in Asia, the Philippines is now described as the second most dangerous place in the world to practice journalism. This reputation was later on made worse by the leadership of the former president Rodrigo Duterte (York and Lacambra). For instance, the former administration pushed to revoke the registration of the independent news organization Rappler after being labeled as deceptive, misrepresenting, and malicious not only by the supporters of the administration but also by the former president himself.

There are several reasons as to why our society has a moral obligation to protect free speech—reasons which can be classified into four main themes. Our value and right to speak freely, both on practical and legal levels, need to be protected as a way of recognizing its role in (1) promoting an individual's self-fulfillment, (2) encouraging political and social participation, (3) strengthening an individual's impact in national decision-making processes, and (4) providing a reasonable balance between a nation's stability and change (Jallow).

Theoretical Framework

The current study focuses on the dynamics of building persuasion resistance, formally called inoculation as operationalized in Inoculation Theory (McGuire, "Inducing Resistance to Persuasion"). This theory argues that by providing the two components of inoculation, namely threat and refutational preemption, one can build active resistance to persuasive messages (Compton and Pfau). Inoculation scholars, however, would note that although the inoculation strategy derived from this theory can confer strong persuasion resistance, absolute immunity to attitude change is still not guaranteed (Compton). This means that attitude change remains possible in spite of inoculation, mainly due to several nuances in intrapersonal mechanisms that are beyond the scope of this research.

The first component, threat, acts as the motivator of the resistance (Compton). Threat stimulates the consciousness of an individual towards persuasive attacks, further stimulating the whole inoculation process (McGuire, "Inducing Resistance to Persuasion"; Pfau). Thus, it is considered a necessary component of inoculation. One must remember that threat is not the same as fear appeal despite both having to deal with discomfort, for the latter aims for belief conversion while the former aims for belief protection (Dainton and Zelley).

The second component, refutation, acts as the simulator of the resistance (Compton and Pfau). Refutation is also referred to as counter-argumentation or refutational preemption, which means presenting a counterargument against a persuasive attack before the persuasion transaction even happens. Refutation helps an inoculated individual to resist persuasive messages by simulating a weaker persuasion encounter beforehand. This simulation guides the individual in forming his own counterarguments even after the inoculation process itself (Compton).

Both components, threat and refutation, confer inoculation effects while having their different roles in the process (McGuire, "Inducing Resistance to Persuasion"). Studies imply that the mere presence of these components already contributes to the inoculation of individuals (Compton et al.). However, several meta-analyses would reveal that there are competing tendencies between these two components (Banas and Rains). On the one hand, some scholars forward that threat is the core component of inoculation (McGuire, "Inducing Resistance to Persuasion"). It is argued that threat is the one responsible for the effectiveness of inoculation, not the refutational component (Pfau). It is also argued that an inoculator does not need to counter possible arguments from the persuader to make inoculation effective, as long as the threat component is provided to encourage the individuals to refute upcoming arguments for themselves (Pfau).

On the other hand, some scholars would argue otherwise — refutational preemption is the indispensable component of inoculation (Ivanov). In the mere act of providing attack and refutational arguments, the inoculator is already conveying to the audiences that there is indeed a potential attack. From this perspective, refutational preemption is assumed to have a built-in threatening effect, rendering the provision of the threat component unnecessary.

The following hypotheses were derived from the assumptions of Inoculation Theory (McGuire, "Resistance to Persuasion"; Compton) and findings from various studies on inoculation strategy.

H1: The resistance to anti-free speech persuasion of the experimental groups with inoculation will be significantly stronger than the resistance of the control group.

H2: The resistance to anti-free speech persuasion of the experimental group with threat and refutation will not be significantly stronger than the group with refutation alone.

H3: The resistance to anti-free speech persuasion of the experimental group with only refutation will be significantly stronger than the group exposed to threat alone.

H4: The resistance to anti-free speech persuasion of the experimental group with threat and refutation will be significantly stronger than the group exposed to threat alone.

Methodology

This experimental research aimed to determine the different effects of inoculation components — threat and refutational preemption — in building resistance to misleading anti-free speech persuasion. Specifically, the research was able to test the effectiveness of three inoculation treatments namely inoculation using threat, inoculation using refutational preemption, and inoculation using both threat and refutational preemption through a factorial research design. These three experimental treatments were tested against a control condition wherein no inoculation component was provided, for the purpose of determining the baseline persuasion resistance among the participants.

Research Participants

The participants for the four inoculation treatments were purposively sampled from a junior high school population of a public school in the Philippines. Parallel to the participant selection criterion in most inoculation experiments reviewed, this research consisted of participants whose attitudes toward free speech are either positive or neutral (Banas and Rains; Bernard et al.). This criterion ensured that inoculation components would be amenable on the participants, for individuals who are located in the latitude of rejection would not see the threat component as threatening and would only experience dissonance rather than resistance (Pfau et al., "Attitude Accessibility"). This also means that the participants recruited for the four inoculation treatments were initially accepting or noncommittal toward free speech. In assigning the selected participants to each treatment, this research secured partial equivalence across all four treatment groups through participant-matching. This method ensured that the experimental and control groups have similar compositions in terms of the number of participants who are accepting or noncommittal towards free speech as a value and right.

The population consisted of 240 students ($N=240$), and the purposive sample successfully recruited with full and informed parental consent from the said population was 162 ($n=162$), divided among the four inoculation treatments. The purposive sample was composed of 73 male participants (45.1%) and 89 female participants (54.9%). The participants' age was normally distributed across 14 to 18 years old with 61.7% being 16 years old ($M=16$, $SD=0.73$).

Research Instrument

The primary data collection method for the current research was attitude measurement using an attitudinal questionnaire. This aimed to measure the attitude of the participants toward free speech both before and after an anti-free speech persuasion. Due to the lack of inoculation studies that focus on free speech, the researcher constructed an original instrument specific to the given context and research design. It was nonetheless modelled after instruments used in various inoculation studies that center on values relevant to free speech such as equality and democracy (Bernard et al.). The new instrument is a 20-item, 7-point Likert scale questionnaire. Each of the twenty items belongs to one of the four domains: free speech in education, free speech in politics, free speech in culture, and free speech in societal development. The content of each item was derived from various references from the areas of political science, social movements, rights and constitutions, journalism, and political communication (Fletcher; Jallow; Oglethorpe; Teodoro and Kabatay; York and Lacambra).

Table 1
Attitude Measurement and Stimuli Provision of the Experimental Groups

Group	Initial Measurement	Threat	Refutational Preemption	Anti-Free Speech Persuasion	Final Measurement
No Inoculation	✓			✓	✓
Threat Inoculation	✓	✓		✓	✓
Refutational Inoculation	✓		✓	✓	✓
Full Inoculation	✓	✓	✓	✓	✓

Note. The order of measurement and stimuli provision begins from left to right.

The instrument produces a maximum score of 140 (extreme positive) and a minimum score of 20 (extreme negative). The response options for each item involve three intervals: strongly disagree and disagree (1-2); slightly disagree, neutral, and slightly agree (3-5), and agree and strongly agree (6-7). The latitude of an individual's attitude was decided based on the sum of his scores divided by twenty. Only the participants who achieved a score reflecting a positive or neutral attitude toward free speech were qualified for the experiment proper. The instrument went through various validity and reliability tests, achieving a Cronbach's alpha value of 0.86 (20 items; $\alpha = 0.86$) which indicates good reliability and internal consistency.

Data Gathering Procedure

The participants were first informed regarding the nature of the procedures, beside the full and informed parental consent secured in the previous steps. The researcher proceeded with the initial attitude measurement of the four treatment groups. As shown in Table 1, the four treatment groups were group without inoculation (No Inoculation), group with threat only (Threat Inoculation), group with refutational preemption only (Refutation Inoculation), and group with both threat and refutational preemption (Full Inoculation).

The experiment had three stimuli: threat component message, refutational preemption message, and anti-free speech persuasive message. The threat component message focused on conveying to the participants that their initial attitudes toward free speech is threatened or vulnerable given the socio-political situation in the Philippines and the world. The message also illustrated how the said threat to their attitudes is brought about by misleading anti-free speech persuasion. This component was provided only to Threat Inoculation and Full Inoculation treatment groups. The refutational preemption message then aimed to provide participants with the weaker versions of the anti-free speech arguments, allowing them to anticipate the themes of the upcoming persuasion while also enabling them to refute these arguments for themselves. This component was provided only to Refutation Inoculation and Full Inoculation treatment groups.

Table 2
Sample Messages from the Experimental Stimuli

Experimental Stimulus	Sample Messages
Anti-Free Speech Message	We enjoyed our right to free speech so much that we have grown blind to its consequences. We have always loved how we can express our opinions at any time, in any place, to anyone, and through any medium that we never really thought of letting go of this freedom. One day, you will meet someone who is freely speaking of nothing but hate, ignorance, and chaos — then you will ask yourself why. Remember that it is because he can and it is because he is free.
Threat Component	Now, you believe that free speech is a basic right and that it is important in the contexts of education, politics, culture, and development. But your positive attitude toward free speech may change in the near future. Given the political situation of our country nowadays, various types of people such as government officials and bloggers will try to persuade you to think otherwise. Months, weeks, or even days from now, you may encounter an article, a blog, a close friend, or a stranger telling you, "You know what, free speech is not really as good and valuable as it sounds. Free speech has many unseen consequences, and you should stop believing in it just like I did." Because of what they said, you may now start thinking that free speech is not that important, or that it is actually harmful.
Refutational Preemption	**Weakened Anti-Free Speech Argument:** Because of free speech, even younger people who are not mature and educated enough are allowed to comment on political and cultural issues **Refutation:** The youth also have the capacity to give valuable opinions on issues. Even high school students like you are already trained by your teachers within these classrooms to give well-thought-out insights on the problems that our society is facing. As a nation, we also need to value inclusivity and believe that people of all ages can help in improving our way of life. These things can only be done if we promote and protect free speech.

Note. The experimental stimuli were presented to participants through a recorded speech.

The anti-free speech message, provided after the inoculation stimuli, employed various misleading appeals to emotion, appeals to logic, and real-life illustrations that aimed to convince the participants to perceive free speech negatively. This anti-free speech message was provided to all treatment groups through an audio-recording. The table below (see Table 2) presents select parts of the persuasive anti-free speech message, threat component, and refutational preemption.

Table 3
Initial and Final Attitude Scores of the 4 Treatment Groups

		Initial		Final		
	n	*M*	*SD*	*M*	*SD*	*difference**
No Inoculation	40	111.8	15.4	82.9	17.6	28.85
Threat Inoculation	41	119.6	12.5	103.4	16.9	16.22
Refutation Inoculation	40	116.4	10.5	94.6	15.4	21.83
Full Inoculation	41	120.1	12.9	113.4	13.8	6.68

Note. *The values reflect the difference between the initial and final attitude score means.

After each treatment group was provided with their corresponding inoculation treatment (i.e., threat, refutational preemption) followed by the anti-free speech messages, the last step in the experiment proper was the final attitude measurement. The objective at this point was to determine the attitudinal positions of the participants after the inoculation treatment and anti-free speech persuasion were provided. The attitude scores from this measurement were compared to the initial scores to determine the levels of attitude change among treatment groups. There was a seven-day interval between the initial attitude measurement and the provision of the stimuli during the experiment proper, while there was no interval between the provision of the stimuli and the final attitude measurement. All 162 participants underwent a comprehensive debriefing session after the experiment and data collection proper.

Data Analysis and Interpretation

This section includes the presentation, analysis, and interpretation of the data gathered from the experiment proper. This also includes results of employed statistical analyses that aimed to test the hypotheses. The main tests used were one-way analysis of variance (ANOVA), and Games-Howell post-hoc test for multiple comparison. One-way ANOVA, in particular, aimed to test the significance of differences among the means of the four treatment groups where the one categorical independent variable is the inoculation treatment with four levels, while the dependent variable is the attitude scores.

Table 3 shows the average initial attitude scores of all the participants in each treatment group, as well as their average final attitude scores which were measured after the provision of their corresponding treatment and the anti-free speech persuasion message. The table also indicates the difference between the initial and final attitude score means which can be attributed to the type of treatment received by the participants.

Without being exposed to any inoculation component, the control group (No Inoculation) was presented with the anti-free speech persuasion that attempted to negatively change their attitude toward free speech. From a mean attitude score of 111.8 (M=111.8, SD=15.4) in the initial measurement, the average attitude score of the

control group decreased to 82.9 (M=82.9, SD=17.6) after their exposure to anti-free speech persuasion, resulting in a 28.85 discrepancy between the initial and final attitudes. Such a decrease, reflecting a much less positive attitude toward free speech, is attributed to the lack of inoculation treatment. This initial finding supports Banas and Rains' argument that individuals who were not induced with psychological resistance through inoculation strategy are more susceptible to attitude change. The resistance of such individuals solely consists of motivated and outcome resistances which do not confer protection from persuasion as strongly as inoculation strategy (Banas and Rains).

With prior exposure to the threat component only, the first experimental group (Threat Inoculation) was presented with the anti-free speech persuasion. From a mean attitude score of 119.6 in the initial measurements (M=119.6, SD=12.5), the mean score of the Threat Inoculation group decreased to 103.4 (M=103.4, SD=16.9), resulting in a 16.22 discrepancy between the initial and final attitudes. Despite the decrease in mean score, indicating that the general attitude toward free speech slightly became less positive, the scores of the participants remained in the highly positive interval.

With prior exposure to refutational preemption component only, the second experimental group (Refutation Inoculation) was presented with the anti-free speech persuasion. From a mean attitude score of 116.4 in the initial measurements (M=116.4, SD=10.5), the mean score of the Refutation Inoculation group decreased to 94.6 (M=94.6, SD=15.4), resulting in a 21.83 discrepancy between the initial and final attitudes. Lastly, with prior exposure to both the threat and refutational preemption components, the third experimental group (Full Inoculation) was presented with the anti-free speech persuasion. From a mean attitude score of 120.1 in the initial measurement (M=120.1, SD=12.9), the mean score of the Full Inoculation group decreased to 113.4 (M=113.4, SD=13.8), resulting in a 6.68 discrepancy between the initial and final attitudes. The highlight of the Full Inoculation group is that it had the smallest change in average attitude score and variability among the four treatment groups which can be attributed to its prior exposure to both inoculation components.

As illustrated in the figure, Figure 1, the third experimental group that was exposed first to both threat and refutational preemption (Full Inoculation) before listening to the anti-free speech persuasion experienced the least amount of movement from the initial to the final attitude score. This is followed by the Threat Inoculation group. On the other hand, the figure also shows that the control group that was not exposed to any inoculation component (No Inoculation) before listening to the anti-free speech persuasion exhibited the greatest amount of movement from the initial to the final attitude score. This is followed by Refutation Inoculation that also conferred minimal resistance to the influence of anti-free speech persuasion. These findings reinforce the theoretical claim that between the two components of inoculation, the threat component is responsible for most of the resistance conferred by the strategy (Compton et al; Pfau). However, all experimental groups that were exposed to at least one component exhibited resistance to influence supporting the argument by Compton and colleagues.

Significance of Mean Difference among Inoculation Treatment Groups

Based on the varying movements from the initial attitude to the final attitude scores across the four treatment groups, the greater effectiveness of two inoculation approaches (i.e., full inoculation, threat inoculation) over the others in providing resistance to anti-free speech persuasion can be observed. However, the significance

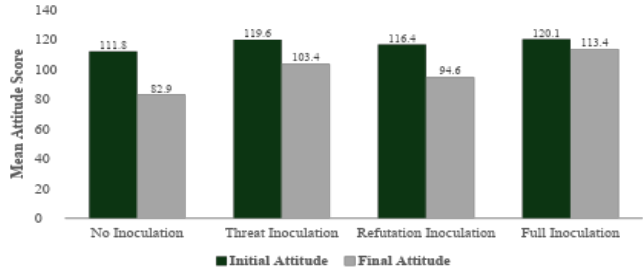

Figure 1
Initial versus Final Attitude Scores after Misleading Anti-Free Speech Persuasion

of such differences must be determined. In this research, the specific analysis used to accomplish this objective is one-way ANOVA, which aimed to examine how one independent variable with three or more levels affects the dependent variable by comparing the mean differences. The independent variable in this case is the inoculation treatment which is inclusive of four levels — no inoculation, threat inoculation, refutation inoculation, and full inoculation. The dependent variable, on the other hand, is the attitude change level.

The test indicated that there is a significant mean difference among the attitude change levels of the four treatment groups [F (3,158) = 10.48, p < .001] at 95% confidence level (see Table 4). This result affirmed the noticeable difference among the initial score versus final score discrepancies of the groups. The result also implies that although there is an attitude change even in participants provided with inoculation, the change levels still significantly vary across inoculation treatments. Results show that the mean difference is significant, but there is still a need to determine where this significance is coming from and which groups exactly are significantly different. In order to address such inquiry, this research employed a post-hoc analysis.

Multiple Comparisons Post-Hoc Test

In order to determine the proper post-hoc test, Levene's Test of Homogeneity was used. The result of said test indicates that there are unequal variances for the attitude change levels among the four treatment groups [F (3, 158) = 3.39, p = .02] at 95% confidence interval. The result dictated that the research must proceed with a non-parametric Games-Howell Post-Hoc Test to conduct multiple comparisons among the four treatment groups, for the purpose of identifying which groups exactly are statistically different from the others.

First, the Games-Howell post-hoc test (see Table 5) shows that there is a significant difference between the attitude change levels in No Inoculation group (M=28.85, SD=23.59) and Threat Inoculation group (M=16.22, SD=16.42), p= .034 at 95% confidence level. This also means that participants from the Threat Inoculation group were significantly more resistant to anti-free speech persuasion than those from the No Inoculation group. Second, the test shows that there is no significant difference between the attitude change levels in No Inoculation group (M=28.85, SD=23.59) and

Table 4
Significance of Difference among the Attitude Change Levels of Inoculation Treatments

	Sum of Squares	df	Mean Square	F	Sig.*
Between Groups	10659.79	3	3553.26	10.48	.00
Within Groups	53578.78	158	339.11		
Total	64238.57	161			

Note. *Significant at the 0.05 alpha level

Table 5
Multiple Comparisons of Treatment Group Means using Games-Howell Test

					95% Confidence Interval	
(I) Treatment	(J) Treatment	Mean Difference (I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
No Inoculation	TI	-12.63*	4.53	.03	-24.55	-.72
	RI	-7.03	4.71	.45	-19.41	5.36
	FI	-22.17*	4.35	.00	-33.64	-10.70
Threat Inoculation	NI	12.63*	4.53	.03	.72	24.55
	RI	5.61	3.85	.47	-4.51	15.72
	FI	-9.54*	3.40	.03	-18.47	-.61
Refutation Inoculation	NI	7.03	4.71	.45	-5.36	19.41
	TI	-5.61	3.85	.47	-15.72	4.51
	FI	-15.14*	3.64	.00	-24.72	-5.57
Full Inoculation	NI	22.17*	4.35	.00	10.70	33.64
	TI	9.54*	3.40	.03	.61	18.47
	RI	15.14*	3.64	.00	5.57	24.72

Refutation Inoculation group (M=21.83, SD=18.19), p= .45 at 95% confidence interval. In this case, participants from the Refutation Inoculation group were not significantly more resistant to anti-free speech persuasion than participants from the No Inoculation group. This result challenges the theoretical claim by Ivanov that refutational preemption alone readily confers significant resistance to influence.

Lastly, it is shown than there is a strongly significant difference between the attitude change levels in No Inoculation group (M=28.85, SD=23.59) and Full Inoculation group (M=6.68, SD=14.32), p< .001 at 95% confidence level. This clearly suggests that participants from the Full Inoculation group were significantly more resistant to anti-free speech persuasion than those from the No Inoculation group. With persuasion resistance in two out of the three experimental groups (i.e., Threat Inoculation, Full Inoculation) being significantly stronger than that of the control group (i.e., No Inoculation), leaving one experimental group (i.e., Refutation Inoculation) as not significantly more resistant than the control group, the first hypothesis **(H1)** of this research is rejected. More precisely, not all experimental groups that received at least one inoculation component were significantly more resistant to anti-free speech persuasion than the control group which did not receive any inoculation treatment at all.

The second hypothesis **(H2)** of this research forwards that there is no significant difference between the attitude change levels in Full Inoculation and Refutation Inoculation groups. The Games-Howell multiple comparisons show that there is a significant difference between the attitude change levels of Refutation Inoculation group (M=21.83, SD=18.19) and Full Inoculation group (M=6.68, SD=14.32), p< .001 at 95% confidence level. This implies that fully inoculated participants were more resistant to anti-free speech persuasion compared to participants from Refutation Inoculation. With this, the second hypothesis **(H2)** is rejected.

The third hypothesis **(H3)** of this research forwards there is a significant difference between the attitude change levels in Threat Inoculation and Refutation Inoculation groups. Specifically, the resistance of Refutation Inoculation group could be stronger than that of the Threat Inoculation group. The test shows that there is no significant difference between the attitude change levels of the two groups, p= .47 at 95% confidence level. In addition, it was the Threat Inoculation group that exhibited stronger resistance to anti-free speech persuasion than the Refutation Inoculation group. This difference, however, remains to be insignificant. With this, the third hypothesis **(H3)** is also rejected. The rejection of the first three hypotheses can be attributed to several variables not accounted by the methodological design of the current study, including the strength of pre-existing persuasion resistance inherent to the participants, the participants' reception of the counterarguments provided in the refutational preemption stimulus, and the participants' perceived level of threat that resulted from the threat stimulus.

The fourth and last hypothesis **(H4)** of this research forwards that there is a significant difference between the attitude change levels in Threat Inoculation and Full Inoculation groups. Specifically, the resistance to anti-free speech persuasion among participants from the Full Inoculation group is stronger than that of the Threat Inoculation group. The Games-Howell post-hoc test shows that there is indeed a significant difference between the attitude change levels between the two treatment groups, p= .03 at 95% confidence level. Participants who were fully inoculated also had significantly stronger resistance to anti-free speech persuasion. With this, the fourth and last hypothesis **(H4)** is supported.

Additional Analysis using Two-Way Analysis of Variance

To further establish the effects of the inoculation components, an additional analysis through two-way analysis of variance was performed. This analysis was employed with the two levels of the threat component (i.e., with and without) and the two levels of the

Table 6
Analysis of Main and Interaction Effects of Inoculation Components

Dependent Variable: Attitude Change*				
Source	**df**	**Mean Square**	**F**	**Sig.**
Threat	1	7808.38	23.03	.00
Refutation	1	2776.72	8.19	.01
Threat * Refutation	1	63.86	0.19	.67
Residual	158	339.11		

Note. *R Squared = 0.17 (Adjusted R Squared = 0.15)

refutational preemption component (i.e., with and without). The goal of two-way ANOVA in this research was to reveal the components' main and interaction effects, specifically investigating how the presence or absence of the components affects the resulting attitude change.

As shown in the table (see Table 6), the threat component has a significant main effect on the attitude change level among the participants, $F\ (1,158) = 23.03, p < 0.001$. This implies that in terms of reducing the attitude change experienced by the participants in the face of anti-free speech persuasion, the threat component plays an important role. The results also show that the refutational preemption component has a significant main effect in the attitude change level of participants, $F\ (1,158) = 8.19, p = 0.01$. Similarly, this indicates the importance of refutational preemption in reducing the attitude change of the participants when persuaded with anti-free speech messages. Both of these results reinforce the general theoretical assumption that providing an individual with the components of inoculation confers resistance to persuasion (Compton; McGuire, "Inducing Resistance to Persuasion"). However, it is shown that there is no significant interaction effect between the threat component and the refutational preemption component, $F(1,158) = 0.19, p = 0.67$. This ultimately implies that the presence or absence of one inoculation component does not amplify the effects of the other component in reducing attitude change in the face of anti-free speech persuasion.

Synthesis of Findings

The current research primarily argues that full inoculation is the most effective type of inoculation strategy as provided to the Filipino youth participants in the face of anti-free speech persuasion. Although inoculation with threat component alone already provides resistance effects, full inoculation still confers significantly greater resistance. Descriptive and inferential statistics provide evidence that full inoculation confers the strongest inoculative effects among all treatments tested in this research. A meta-analysis of inoculation studies conducted since 1961 also supports the conclusion that combining the two major components of inoculation theory and strategy provides the most promising resistance (Banas and Rains).

Finally, the current research further attests to the integrity of inoculation as an effective belief-protection strategy against misleading, and harmful forms of persuasion.

The inoculation strategy in this study which was crafted to protect individuals against misleading anti-free speech persuasion was proven to be effective. Inoculation, especially full and threat inoculation, was able to protect belief that free speech is important in education, politics, culture, and society.

Conclusion and Implications

The research was able to establish that combining the two inoculation components, threat and refutation preemption, into one treatment results in the strongest persuasion resistance level when inoculating Filipino youth participants against anti-free speech persuasion. The said resistance level was not matched by the individual effects, rejecting the hypotheses from previous studies which stated that refutation inoculation is almost as effective as full inoculation (Ivanov). The results of the research also supported the claim of other inoculation studies that threat may be the crucial component in the inoculation process, possibly even more crucial than refutational preemption (Pfau; Banas and Rains).

Although the present study did not compare outcome, motivated, and induced resistance, it was able to forward that induced resistance in itself confers reliable protection against misleading and harmful persuasion. This also agrees with persuasion resistance scholars in saying that the effectiveness of provided resistance results mainly from the activity and interactivity of the process, as compared to outcome and motivated resistance which are less active in nature (Compton et al., "Inoculation Theory"; McGuire, "Resistance to Persuasion"). The said interactivity is demonstrated by the communication transaction between the inoculator and the inoculated, through acts of threat and refutational messaging.

The study, along with other inoculation studies, forwards that influence may be countered even through quick and subtle messaging strategies such as inoculation. The study was also able to demonstrate how inoculators can regulate and intervene with the flow of influence across and among interpersonal agents, especially in the protection of the Filipino youth and their belief in democracy, free speech, press freedom, and the role of independent expression in the development of education, culture, political participation, and the society at large. The results of this research also imply and affirm that verbal and nonverbal messages are important not only in forming, maintaining, and changing attitudes, beliefs, and values, but also in protecting them from harmful sources of influence. By demonstrating the effectiveness of inoculation even with larger audiences, this research also forwarded that the strategy has a promising role to play in interpersonal and political communication in the Philippines and the global scene. The present study also supports the possibility of utilizing inoculation strategy in responding to other contemporary issues such as malinformation, misinformation, and disinformation.

WORKS CITED

Banas, John A., and Stephen A. Rains. "A Meta-Analysis of Research on Inoculation Theory." *Communication Monographs,* vol. 77, no. 3, Sept. 2010, pp. 281–311, doi.org/10.1080/03637751003758193.

Bernard, Mark M., et al. "The Vulnerability of Values to Attack: Inoculation of Values and Value-Relevant Attitudes." *Personality and Social Psychology Bulletin,* vol. 29, no. 1, Jan. 2003, pp. 63–75, doi.org/10.1177/0146167202238372.

Compton, Josh. "Inoculation Theory." *The SAGE Handbook of Persuasion: Developments in Theory and Practice*. 2nd ed Thousand Oaks: SAGE Publications, Inc., 2012, pp. 220-36. Sage Knowledge, doi.org/10.4135/9781452218410.

Compton, Josh, and Bobi Ivanov. "Vaccinating Voters: Surveying Political Campaign Inoculation Scholarship." *Annals of the International Communication Association*, vol. 37, no. 1, Jan. 2013, pp. 251–283, doi.org/10.1080/23808985.2013.11679152.

Compton, Joshua A., et al. "Persuading Others to Avoid Persuasion: Inoculation Theory and Resistant Health Attitudes." *Frontiers in Psychology*, vol. 7, no. 122, 9 Feb. 2016, doi.org/10.3389/fpsyg.2016.00122.

Compton, Joshua A., and Michael Pfau. "Inoculation Theory of Resistance to Influence at Maturity: Recent Progress in Theory Development and Application and Suggestions for Future Research." *Annals of the International Communication Association*, vol. 29, no. 1, Jan. 2005, pp. 97–146, doi.org/10.1080/23808985.2005.11679045.

Compton, Joshua A., and Michael Pfau. "Spreading Inoculation: Inoculation, Resistance to Influence, and Word-of-Mouth Communication." *Communication Theory*, vol. 19, no. 1, Feb. 2009, pp. 9–28, doi.org/10.1111/j.1468-2885.2008.01330.x.

Dainton, Marianne, and Elaine D Zelley. *Applying Communication Theory for Professional Life: A Practical Introduction*. Sage Publications, Inc., 2019.

Fletcher, Adam F.C. "Youth and free speech." *The Free Child Institute*, 2011, freechild.org/youth-and-free-speech/.

Fransen, Marieke L., et al. "Strategies and Motives for Resistance to Persuasion: An Integrative Framework." *Frontiers in Psychology*, vol. 6, no. 1201, 14 Aug. 2015, doi.org/10.3389/fpsyg.2015.01201.

Freedom House. "Philippines." *Freedomhouse.org*, 2013, freedomhouse.org/country/philippines

Godbold, Linda C., and Michael Pfau. "Conferring Resistance to Peer Pressure among Adolescents." *Communication Research*, vol. 27, no. 4, Aug. 2000, pp. 411–437, doi.org/10.1177/009365000027004001.

Ivanov, Bobi. *The Process of Inoculation and Its Potential in Promoting Resistance to the Effectiveness of Multiple Competitive Attacks on the Country of Origin Concept*. 2006. University of Oklahoma, PhD dissertation.

Jackson, Ben, et al. "Re-Thinking Anxiety: Using Inoculation Messages to Reduce and Reinterpret Public Speaking Fears." *PLOS ONE*, vol. 12, no. 1, 26 Jan. 2017, p. e0169972, doi.org/10.1371/journal.pone.0169972.

Jallow, Agi Y. *Delayed Democracy: How Press Freedom Collapsed in Gambia*. AuthorHouse, 1 Oct. 2013.

McGuire, William J. "Resistance to Persuasion Conferred by Active and Passive Prior Refutation of the Same and Alternative Counterarguments." *The Journal of Abnormal and Social Psychology*, vol. 63, no. 2, 1961, pp. 326–332,doi.org/10.1037/h0048344.

————. "Inducing Resistance to Persuasion: Some Contemporary Approaches." *Advances in Experimental Social Psychology*, vol. 1, 1964, pp. 191–229, doi.org/10.1016/s0065-2601(08)60052-0.

Oglethorpe, David. *College Students' Attitude Free Speech and Freedom of Expression*. 2018. PhD dissertation.

Parker, Kimberly A., et al. "Inoculation's Efficacy with Young Adults' Risky Behaviors: Can Inoculation Confer Cross-Protection over Related but Untreated Issues?" *Health Communication*, vol. 27, no. 3, Apr. 2012, pp. 223–233, doi.org/10.1080/10410236.2011.575541. 2018. PhD dissertation.

Parker, Kimberly A., et al. "Inoculation's Efficacy with Young Adults' Risky Behaviors: Can Inoculation Confer Cross-Protection over Related but Untreated Issues?" *Health Communication,* vol. 27, no. 3, Apr. 2012, pp. 223–233, doi.org/10.1080/10410236.2011.575541.

Pfau, Michael. "The Inoculation Model of Resistance to Influence." *Progress in Communication Science*, vol. 13, 1997, pp. 133-171.

Pfau, Michael, et al. "Nuances in Inoculation: The Role of Inoculation Approach, Ego-Involvement, and Message Processing Disposition in Resistance." *Communication Quarterly,* vol. 45, no. 4, Sept. 1997, pp. 461–481, doi.org/10.1080/01463379709370077.

Pfau, Michael, et al. "Attitude Accessibility as an Alternative Explanation for How Inoculation Confers Resistance." *Communication Monographs,* vol. 70, no. 1, 1 Jan. 2003, pp. 39–51, doi.org/10.1080/715114663.

Pfau, Michael, et al. "Use of Inoculation to Promote Resistance to Smoking Initiation among Adolescents." *Communication Monographs,* vol. 59, no. 3, Sept. 1992, pp. 213–230, doi.org/10.1080/03637759209376266.

Teodoro, Luis V, and Rosalinda Kabatay. *Mass Media Laws and Regulations in the Philippines*. Asian Media Information & Communication Centre, 2006.

UNESCO. "Director-General's Report on the Safety of Journalists and the Danger of Impunity." *Unesco.org*, 2023, www.unesco.org/en/safety-journalists/dg-report-safety-journalists. Accessed 5 Aug. 2024.

van der Linden, Sander, et al. "Inoculating against Fake News about COVID-19." *Frontiers in Psychology,* vol. 11, no. 566790, 23 Oct. 2020, doi.org/10.3389fpsyg.2020.566790.

York, Jillian C. and Stephanie Lacambra. "Duterte Administration Moves to Kill Free Speech in the Philippines." *Electronic Frontier Foundation,* 26 Jan. 2018.

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