

# The Relationship between Profanity and Intelligence

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Frank Giordano  
Manhattan College

**ABSTRACT.** Profanity and censorship are prevalent in our culture. Many negative opinions about cursing exist, but there is little actually known about how harmful it can be. The purpose of this experiment was to see if cursing is correlated with intelligence. The hypothesis is that there will be no relationship between cursing and intelligence. A 28 question survey that assessed cursing frequency was given to 46 college enrolled participants. After the survey, the participants were asked to complete the Wonderlic Personnel Test in order to assess their Intelligence Quotient. After running a linear regression analysis between the factors in the survey and the IQ scores, no statistically significant relationship was found between cursing and intelligence. There was a statistically significant correlation found between IQ score and whether or not the participant reported that he or she attempts to expand his or her vocabulary. These findings show that although cursing may not be socially desirable, it is not a predictor of intelligence or the lack thereof. It was shown that vocabulary and the desire to expand it may play a large role in intelligence. This should be emphasized in scholastic environments, especially for children before the age of three. Developing an extensive vocabulary as soon as possible seems to lead to higher intelligence.

## 1. Introduction

Profanity sends a message whilst emitting emotion. It is meant to capture attention and display a particularly strong emotion. Steven Pinker (2007) identifies these emotions as disgust, dread, revulsion, fear, and contempt. In our ancestral times, these emotions' purpose was survival. For example, disgust has been shown to be a vestigial safeguard against disease and rage serves the biological imperative to survive by generating aggression (Lewis, 1998). Profanity and emotion play off each other to convey specific messages and to generate appropriate responses. Although emotions do help communicate a message, cursing serves its own purpose. Pinker (2007) takes the emotions that he has identified and attaches them to five different modes of cursing, each serving a secondary purpose. Dysphemistic swearing depicts the subject matter in a purposefully provocative manner. Abusive swearing is used in order to intimidate. Idiomatic swearing expresses that the atmosphere is informal, or arouses interest. Emphatic swearing emphasizes another word in an adverbial or adjectival manner. Cathartic swearing articulates an intense emotional state, usually one of shock or pain.

These types of swearing go deeper than just communication, and force an emotional response or understanding upon listeners.

The cathartic mode of cursing may explain a potential neurobiological reason that verbal profanity exists. A study conducted by Richard Stephens (2011) shows that cursing can be a source of pain relief. 71 undergraduate participants from Keele University participated in a pain relief study in which the participants submerged their hands in five-degree Celsius water for as long as possible. They were to repeat one neutral word for the first trial until they gave up or reached a five-minute limit. They then repeated the hand submerging test while being able to curse at their leisure. Results show that participants could last longer and endure more pain when allowed to curse. 67 students of the 71 reported less pain and endured 40 seconds longer on average, meaning that profanity could be used as a method of pain relief.

Intelligence is a difficult concept to define; however, it is generally understood to be the measure of cognitive ability. There are two widely accepted but very different theories of intelligence. One is<sup>16</sup>

Cattell's theory of fluid and crystallized intelligences. Fluid intelligence is an overall cognitive ability that allows for problem solving and logical thinking. Crystallized intelligence is the use of skills and experience in a useful way (Ferrer et al. 2009). The other paradigm is Gardner's theory of multiple intelligences. This theory states that it is necessary to break down intelligence into categories to accurately portray the concept as a whole. The categories are logical-mathematical, linguistic, musical, spatial, bodily-kinesthetic, intrapersonal, and interpersonal (Gardner & Hatch, 1989). Despite the debate on which theory is more accurate, psychometricians have developed tests that assess intelligence with accuracy (Gardner & Hatch, 1989). Although it is difficult to define and predict, IQ can generally be accurately measured.

Both nature (genetic factors) and nurture (environmental factors) are responsible for intelligence. Studies are inconclusive as to which factor plays a larger role in determining intelligence (Nisbett et al., 2012). The environment that a child is exposed to at a young age can act as a confounding variable in studies that try to measure heritability's effect on intelligence. With this being said, young children that are highly stimulated in adaptive homes tend to possess higher IQ scores. Positive stimulation varies greatly across people of different socioeconomic statuses (Unz, 2012). Wealthier people can afford greater education and care for their children, which may boost their IQ beyond what it would be in different environments. Generally, results show that cognitive stimulation at a young age will yield higher intelligence, despite any of the unobservable hereditary effects.

While IQ is stable over a person's lifetime, personality is not. Perhaps people with certain personality types curse more frequently, or are generally more intelligent. In one study, people ranging from ages 18 to 60 were compared in both intelligence and personality to examine any trends (Nauert, 2006). Higher levels of openness and lower levels of extraversion were important predictors of general knowledge in young adults. In older people, low levels of agreeableness tended to correlate with higher intelligence. Conscientiousness may also play a role in predicting performance, but not necessarily intelligence. Personality tends to fluctuate more than intelligence, making this only a mildly useful tool in predicting intelligence.

The present research will attempt to uncover

any relationship between profanity and intelligence. The low social desirability of cursing may allow people to tie negative notions to cursing, particularly that the speaker is unintelligent. As previously stated, there is a dearth of information in regards to this topic and there are no definite predictors of intelligence. This study may generate some important findings on the issue. A survey addressing cursing will be given to the participants. Following this survey, an IQ test will be administered. My hypothesis is that no relationship will exist between cursing and intelligence.

## 2. Method

### Participants

Participant recruiting was done by advertising via word of mouth on Manhattan College's campus. This convenient sampling style yielded 46 valid participants. All participants were Manhattan College undergraduate students. The ages ranged from 18 to 23 years old ( $M = 20.16$ ). There were 15 females and 31 males in this study. There was one African American participant, six Asian, six Hispanic, three multiracial, and 30 white participants. One factor dealt with

### Materials

The IQ test used was the Wonderlic Personnel Test. It is a popular group intelligence test that is primarily used for assessing the work performance and problem solving skills of potential employees. Test items cover logical reasoning, vocabulary, and mathematical skills (Pollick, 2012). The participant is given 12 minutes to answer as many of the test's 50 questions as possible. No points are removed for wrong answers, so the participants were encouraged to answer as many questions as possible. Due to copyright issues, details about the test items will not be provided. The possible range of scores for the Wonderlic is 60 to 160.

The cursing survey was based on a 6-point Likert scale (Appendix A). The possible range of scores for each question on the cursing survey was 0 to 5 with 0 indicating the statement never applied to the participant and 5 indicating that the statement very frequently applied to the participant. The survey was written with Pinker's (2007) five types of cursing in mind as well as a general cursing frequency factor and a verbal intelligence countermeasure. A factor analysis displayed that only two factors existed in the

cursing in general, its frequency as well as mode of cursing. The cursing factor's reliability was .938. It asked for cursing and slang frequency in both writing and speech. It also went into detail on how the participant cursed, considering both the utility of the curse as well as how it was used grammatically. The other factor represented verbal eloquence and vocabulary. This vocabulary scale's reliability was .553. This factor addressed use of vocabulary and its mastery.

Procedure

Participants were gathered in a calm and quiet environment. The participants received a copy of the informed consent (Appendix B) form and the administrator reviewed it with them. Those that complied received a copy of the cursing survey to complete. After all the participants finished the survey, the administrator distributed the Wonderlic Personnel Test. The administrator reviewed the test with the participants and explained the way it is graded and the time constraints. Then the administrator completed a sample question with the participants to ensure that the participants understood how to answer the questions properly. After all the participants were ready, the administrator set a timer for 12 minutes and allowed the participants to complete the test. The administrator collected the tests at the time limit. The participants were then verbally debriefed with an explanation of the study and how their data would be used. A coding system was used on the survey and test to ensure the privacy of the participants.

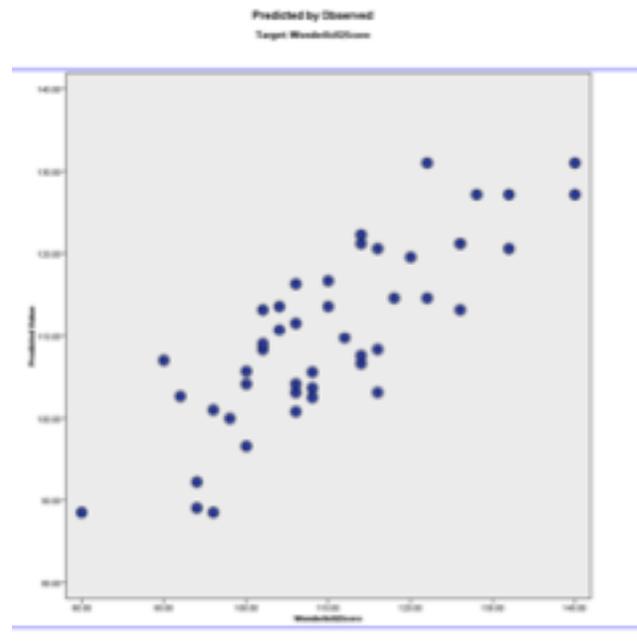
3. Results

The mean responses from the expletive frequency in speech and writing were  $M = 2.98$  and  $M = 2.87$  respectively. The standard deviations were  $SD = 1.35$  and  $SD = 1.56$  respectively. Despite these scores being slightly above average, there was no significant correlation between these items and intelligence,  $r(44) = .031, p > .05$  and  $r(44) = .019, p > .05$ . A linear regression analysis shows that there is no statistically significant relationship between the cursing or vocabulary factor and intelligence,  $R^2 = .304, p > .05$  and  $R^2 = .262, p > .05$ . After correlating all the items on the survey to intelligence, one question stood out. The question, "Do you attempt to expand your vocabulary?" and IQ shared a significant relationship,  $r = -.312, p < .05$ . The data from the regressions are shown graphically below (graph 1 and 2). The hypothesis is

supported by these data, displaying no significant relationship between cursing and intelligence (despite graphical appearances).

The observed range for the Wonderlic Personnel Test was 80 to 140. The mean score was  $M = 110.35$  points with a standard deviation of  $SD = 13.17$  points. The median score was 108 and the mode was 106. This distribution was normative; however, the entire curve was shifted 10 points higher than the population average. This can be seen in the graph below (graph 3).

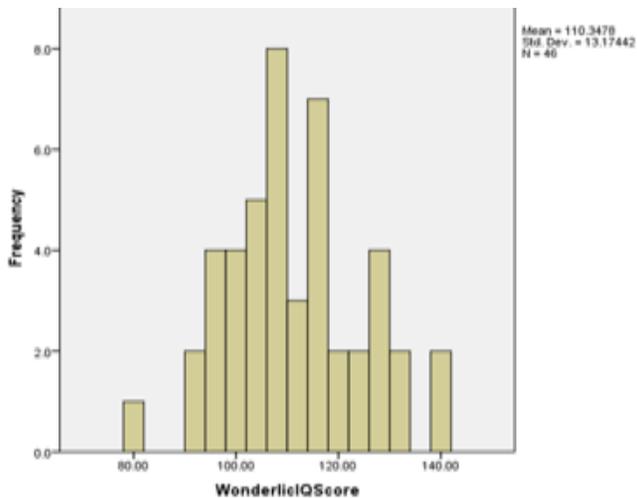
Graph 1. Cursing Factor Regression



Graph 2. Vocabulary Factor Regression



Graph 3. The Distribution of IQ Scores.



#### 4. Discussion

The results of the experiment show that there is no significant relationship between cursing and intelligence. These results support the hypothesis that cursing cannot be used as an accurate predictor of intelligence. There was a significant correlation between intelligence and the question, "Do you attempt to expand your vocabulary?" Those who answered that they frequently attempt to expand their vocabulary also tended to have a higher IQ. Although this study did not examine vocabulary as a predictor of intelligence, the statistics show that vocabulary, or the drive to increase it, may be a predictor of intelligence. This study had many limitations that merit comment. Not only was the sample small, but also all of the participants were college students. Although IQ is stable, being placed in an environment that is designed to foster intelligence may nullify potential effects of cursing. Also, the reliability of the vocabulary factor was low in comparison to the cursing factor. The vocabulary scale was only intended as a counter measure, or an attempt to measure something that could be considered "opposite" of cursing. More skillfully designed vocabulary questions on the survey may have yielded more accurate results for this factor. Likewise, the IQ test used did not specifically address verbal intelligence. The Wonderlic is accurate, quick to administer, and easy to grade, but it does not give any specific data on intelligence. Using an overall intelligence test is not necessarily a pitfall of this study; however, it is worth noting. A verbal section of a standardized test such as the SAT or GRE could yield more salient data,

given that cursing is intuitively a verbal issue.

There is a dearth of research when it comes to the effects of cursing. Many people find cursing to be offensive and harmful, even though there has not necessarily been any direct correlation between profanity and harm. This is partially because there is no clear definition of harm in regards to offensive speech, making it unethical to forcibly expose participants to any harm (Jay, 2009). One way this research can be done is to try to see if there are any stress relief qualities of cursing, similar to the pain relief qualities that cursing has. To get more accurate data, one can even conduct interviews or stress tests after a cursing tantrum. This will require time and effort; however, it can lead to meaningful findings that can display a further usefulness to using words that trigger emotion. Another direction research can take is to try and develop a cursing dependency scale. This can display who uses these words as a crutch as opposed to those who use them on occasion. Defaulting to the versatility of curse words and slang may be the culprit for the lack of vocabulary in some cases. This cursing dependency scale could be correlated to intelligence, rather than just cursing frequency. This will further drive home the point that vocabulary is essential to intelligence, particularly in children. A useful addition to this approach can also be an assessment of drive to increasing vocabulary. The significant question, "Do you attempt to expand your vocabulary" only asked if participants attempt to expand their vocabulary, not if they have an extensive vocabulary. The desire to enhance one's vocabulary may be what is predicting intelligence. In theory, the evidence of this desire to improve vocabulary would be knowing and using more words; however, a scale that addresses drive could yield more significant results.

Although cursing did not display a relationship to intelligence, it can still be responsible for some intellectual damage. Learning ability, particularly for language, spikes during early childhood. If a child is placed in a healthy and stimulating verbal environment, the environment can increase the child's verbal ability. Hampering the child's exposure to vocabulary at this crucial point in life can be detrimental to the child's intelligence. Evidence from Hart and Rinsely (1995) indicates that children of professional parents hear 30 million words by the age of three. Middle class parents' children hear 20 million words

by the age of three. Unemployed African American mothers' children hear only 10 million words by the age of three. The quality of the words is much richer from families of higher socioeconomic status. This fits with the trend of verbal stimulation leading to a higher IQ among children stated previously. Although this study did not examine profanity, it is still cogent. If parents default to the versatility of cursing around their children, the children will follow. The lesson to be learned from this study is that any institution or person that is within a child's surroundings must be cognizant of their choice of language. This means not only avoiding curse words, but also using elaborate vocabulary as frequently as possible. The constant and correct use of language will help expose children to new vocabulary and stimulate them intellectually.

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