ABSTRACT

TITLE:	Cognitive Reasoning and Decision Making in Regards to Personal Biases
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ABSTRACT: In this study, we replicated Kahan's (2013) two famous studies. He examined motivational reasoning and cognitive reflection and formulated a mathematical equation on crime increase/ decrease in cities that did/did not ban carrying concealed handguns in public. He also created a control equation on rashes that did/did not improve on people who did/did not use rash cream. Kahan's results showed that those who scored greater than 7 on the Numeracy scale were more likely to get the answer correct when asked to identify if the rash cream helped and that those whose Numeracy test scores were high were still more likely to answer incorrectly when asked about gun control if their political views opposed the findings. Our research tests the validity of Kahan's original two experiments, although we tested crime increase/decrease in regards to mental health screening in cities instead of concealed carry. It also gives us insight on how people view mental health and gun control. Since we are replicating Kahan's original study, we decided to use two of this three hypothesis which follow: 1) subjects high in Numeracy would be more likely to get the right results in both the skin-treatment conditions and 2) subjects higher in Numeracy would be more likely to construe the data correctly not only when it was consistent with their ideological predisposition but also when it was inconsistent with them and thus likely to display less ideological polarization than subjects lower in Numeracy. We used 128 students from Fort Lewis, 62.5% were female and 37.5% were male. We found that in the control group, 34.3% got the wrong answer compared to 53.2% in the experimental group. We were able to confirm the first hypothesis: 1) subjects high in Numeracy were more likely to get the right results in both the skin-treatment conditions. However, we had to reject the second: 2) subjects higher in Numeracy were no more likely to construe the data correctly when it was inconsistent or consistent with their political view. Kahan also had to reject his second hypothesis. Our results show that we are all susceptible to our own biases regardless of mathematical and scientific evidence.