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Perceptions of the Police: The Role of Need for Cognition and Numeracy

Carolyn Pham, BA & Jiuqing Cheng, PhD

Introduction

What factors contributes to one's perceptions of the police? In this study, we looked at the role of psychological variables, namely the need for cognition and numeracy, and their roles in how different groups of people view the police and what other factors mediate this relationship.

Need for Cognition

Need for cognition (NFC) refers to the tendency that people have to enjoy effortful thinking (Cacioppo & Petty, 1982). MFC is related to how people think about and utilize information. For example, those with a lower level of NFC are more likely to use other forms of judgement to make sense of the world, such as mental shortcuts called heuristics, while generally, those with higher NFC are more likely to respond more substantively to situations that require deeper processing (Cacioppo, Petty, Feinstein, & Jarvis, 1996). NFC is associated with thinking dispositions; West, Toplak, and Stanovich (2008) concluded that NFC is positively related to critical thinking. Additionally, after controlling for general cognitive abilities, those with higher NFC are better able to perform logical reasoning even if it conflicted with their prior beliefs.

Numeracy

Numeracy refers to our numerical ability; there are two types: subjective and objective numeracy. Subjective numeracy refers to our tendency, motivation, and confidence with numerical information while objective numeracy represents our cognitive ability to understand and use that information. Past research has found that those with lower numerate ability relied more on heuristics instead of objective information (Reyna, Nelson, Han, & Dieckmann, 2009).

Perceptions of the Police

Past research has found that some demographic variables are associated with perceptions of the police (POP). Cao & Wu (2019) found that while most people have a generally positive view of the police, there are difference when broken down by race. The general trend that White Americans have the most positive view, followed by Hispanic and Black Americans respectively. POP are also associated with political ideology in that conservatives tend to be more confident in and view the police more positively than liberals (Brown, 2017). Additionally, age, education, and income levels were all positively related to POP, in that those who were older, had higher levels of education, and higher incomes tended to have more positive views of the police as well (Ekins, 2016).

Zero-order correlations between perception of police and other variables

DV	Age	Gender	Edu	Income	Ideology	NFC	SN	ON	CR
DV	-.28***	.002	.17***	.19***	.22***	.16***	.24***	.25***	-.14**
Age		.09	.20***	.08	.16**	.02	.06	.08	-.05
Gender			.12*	.14**	-.07	.004	.18***	.16**	.05
Edu				.40***	-.10*	.10*	.29***	.24***	-.01
Income					-.02	.06	.17***	.21***	-.18**
Ideology						-.05	-.03	-.09	-.06
NFC							.30***	.15**	-.01
SN								.42***	.06

Hypothesis

The aim of this study was to replicate past findings concerning various demographic variables and POP. We also wanted to test the relationship between POP and NFC and numeracy. We hypothesized that POP would have a positive relationship with both NFC and numeracy. Our reasoning behind this is that NFC and numeracy have both been previously linked to thinking dispositions and how we handle information (e.g., whether we use heuristics or objective information). Theoretically, those with higher NFC or numeracy would be able to bypass affect heuristics that are targeted with emotional charged headlines and think about the state of the police in a more objective manner.

Methods

Using TurkPrime, participants' responses were collected for the following surveys:

- Perceptions of the Police Scale (Nadal & Davidoff, 2015)
- Subjective Numeracy Scale (Fagerlin et al., 2007)
- Objective Numeracy Scale (Weller et al., 2013)
- Need for Cognition Scale (Cacioppo & Petty, 1982)
- Demographic information

Results

Means and standard deviations of the demographic variables and crime rate

Age	Education	Income	Social Ideology	Fiscal Ideology	Crime rate/per 100k people
38.60 (16.07)	3.15 (1.08)	5.41 (3.44)	3.79 (1.70)	3.88 (1.72)	3304.5 (1661.9)

Note: numbers in parentheses are standard deviations.

Across 433 participants, the demographic breakdown included:

- 64.2% female, 35.8% male
- 46.4% Democrats, 29.3% Independents, 18.9% Republicans, and 4.2% Others
- Average income between \$40,000-\$59,999
- Average political ideology was centrist or slightly liberal
- Average education was some college or an Associate's degree

Past findings concerning POP and demographic variables were replicated. There were no significant differences among White, Hispanic, and Asian Americans' POP; Black Americans had significantly lower POP, but income and education level both mediate this relationship. Similar to past research, we also found that POP was significantly positively related to age, education, income, and conservative ideology. We found that NFC and subjective numeracy were positively related to POP after controlling for crime rate and demographic variables.

Discussion & Limitations

In conclusion, we found that thinking disposition is related to how we view the police. Demographic variables including race, income, and education have associations with our perceptions of the police as well. However, it is important to consider the limitations and implications of these findings. Since this project aimed to test a novel hypothesis and replicate previous demographic findings, we only included a limited number of variables; we did not account for personal experiences or contact with the police, which have been found to impact POP (Dai & Jiang, 2016). Additionally, future studies should consider examining the effects of the media on POP on top of psychological variables. It is also important to consider the broader context of these findings, such as the social and class issues implicated, specifically the relationship among socioeconomic status, race, and police violence (Motley & Joe, 2018).

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