

How Scientists View Law Enforcement

New Survey of Researchers Tells Us How to Help the Communities Communicate

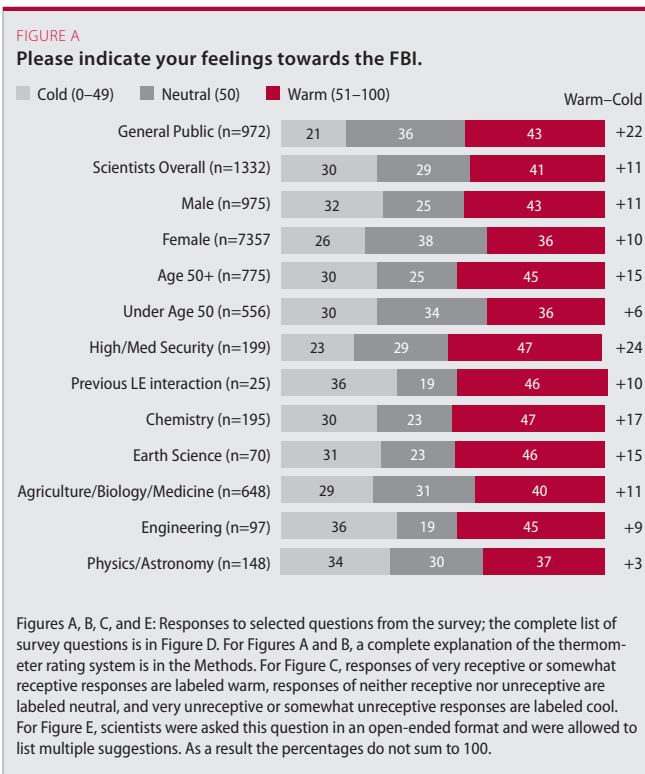
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ANECDOTAL EVIDENCE, including several high-profile cases of scientists under criminal investigation, has led to the impression that many in the scientific community hold a negative view of law enforcement.^{1, 2, 3} While justified in some cases, this divide is a serious liability to law enforcement, since cooperation and consultation with scientists aids in threat assessment, investigation, intelligence gathering, and the recruitment of personnel with specialized skills. But before the two communities can solve this problem with training for law enforcement personnel and through outreach to the scientific community, it is necessary to get a sense of the types and range of views of law enforcement within the scientific community.

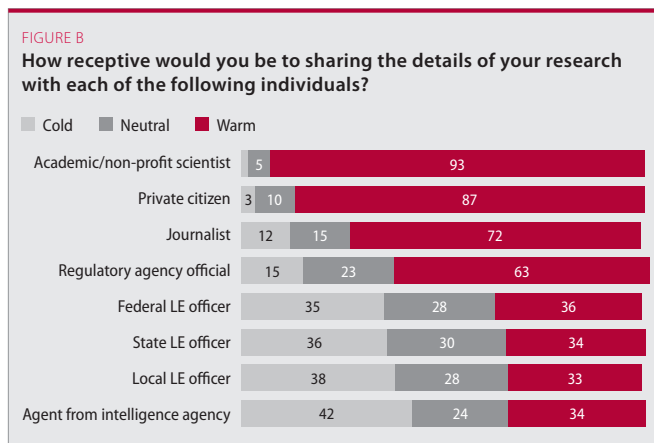
Here we present the results of a survey of the scientific community conducted in conjunction with the FBI to evaluate the working relationship between FBI field agents and scientists. The survey was sent to 10,969 members of the American Association for the Advancement of Science between January 23 and February 18 of this year. 1,332 surveys were completed, and the resulting data produced an average margin of error associated with the total data set of +/- 2.7 percent. A complete version of the survey questions is available in the supplemental material (Table 1).

The attitudes of scientists toward law enforcement personnel are not vastly different from those of the general public (Figure A).⁴ However, a larger percentage of scientists indicated cooler feelings towards the FBI than the general public, suggesting that these reservations are particular to the scientific community and require specific solutions with the scientific community in mind.



The results show that scientists hold more favorable feelings towards state and local law enforcement than federal law enforcement. However, when confronted with specific issues or concerns, the responses reveal no significant distinction between interact-

ing with the FBI or with law enforcement in general. Generally speaking, working in a specific scientific discipline has less effect on an individual's view of law enforcement than demographic factors. Instead, trends suggested that male scientists and those over 50 years of age have a more positive attitude towards the FBI (Figure A). It should be noted that those scientists holding high or medium security clearances—and therefore arguably more likely to have firsthand contact with federal agents—had the highest level of warm views (47 percent) and the lowest level of cool views (23 percent) toward the FBI of any cohort covered in the survey. The survey also revealed that scientists are receptive to the idea of discussing their research with other scientists (93 percent), interested members of the public (87 percent), and journalists (72 percent), but are markedly unreceptive to sharing their work with law enforcement (federal 36 percent, state 34 percent, local 33 percent) (Figure B).



Perhaps the most striking of the results is the indication that scientists are suspicious of the FBI and feel that they do not work well with the scientific community. Some scientists who had professional interactions with law enforcement reported that they had been questioned about the purpose of their international travel, asked to “spy” on their foreign colleagues, and in one case had a computer confiscated and searched. Specific concerns include the belief that law enforcement does not understand their work (76 percent), the belief that law enforcement is more interested in restricting research for security purposes than they are in the scientific value of the work (71 percent), that law enforcement has an overzealous approach to security issues and an interest in censorship (63 percent), and the fear that law enforcement will restrict the publication of some research (55 percent).

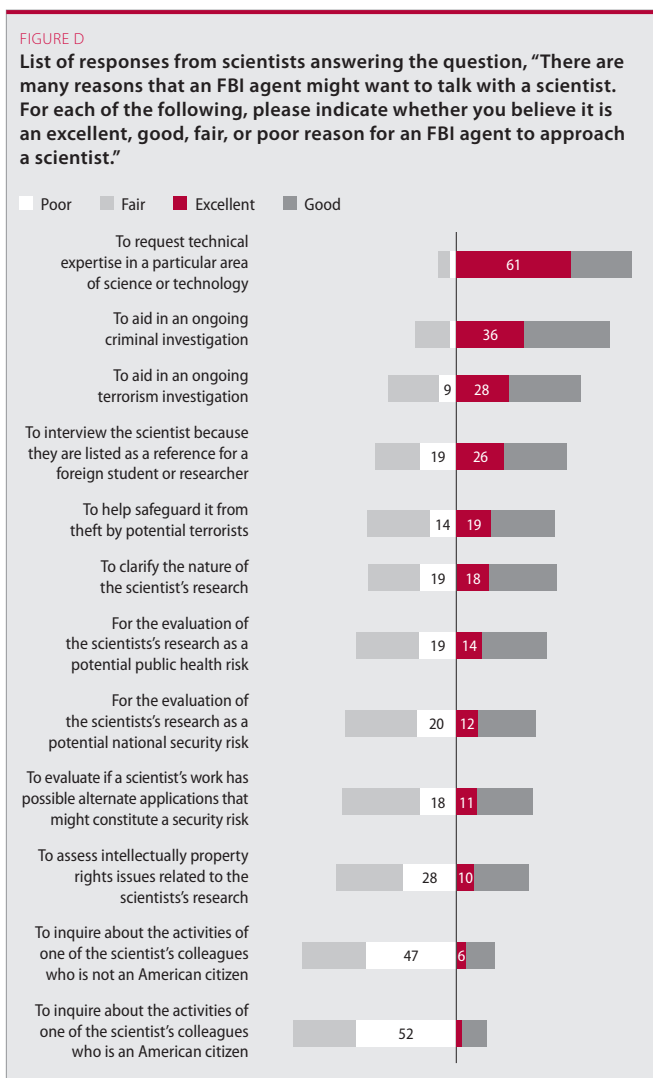
Scientists expressed a clear preference to leave the monitoring of science to familiar authorities rather than law enforcement. Figure C illustrates that most scientists find it acceptable for a familiar authority such as an institutional biosafety committee (64 percent), institutional review board (63 percent), the head of the department

(70 percent), or a government funding agency (60 percent) to play a role in monitoring research. In contrast, there is resistance to FBI (14 percent favorable), state law enforcement (13 percent favorable), local law enforcement (11 percent favorable), private security (11 percent favorable), or campus police (11 percent favorable) playing any role. Despite this reluctance to be monitored by law enforcement, scientists were not completely unwilling to interact with authorities in certain circumstances. The survey asked scientists to consider different circumstances where they might be asked to interact with the FBI and evaluate whether they felt the reasons for contact were good or bad (Figure D).

Almost all respondents (93 percent) felt that requesting technical expertise in a particular area of science was an excellent or good reason to be contacted, and 80 percent agreed that aiding in an ongoing criminal investigation was an excellent or good reason to work with law enforcement. However, the survey revealed that scientists are generally concerned that they would be asked to monitor the activities of a colleague, which 67 percent felt is not a legitimate reason to be contacted by the FBI. Understandably, scientists looked unfavorably on any role that law enforcement might have which interferes with research (57 percent); funding (52 percent); that invades privacy, such as reading personal emails (62 percent); or provides any role for law enforcement to interpret legitimate research as a potential public safety risk (61 percent).

Although some level of suspicion or distrust toward the FBI exists within the scientific community, it is interesting to note that only 15 percent of the surveyed scientists indicated any personal past contact with law enforcement agents in a professional capacity. The general view of these scientists towards the FBI was not significantly different from the views of scientists overall (Figure A), however they are more comfortable reporting suspicious activity to the authorities. Seventy-one percent of those





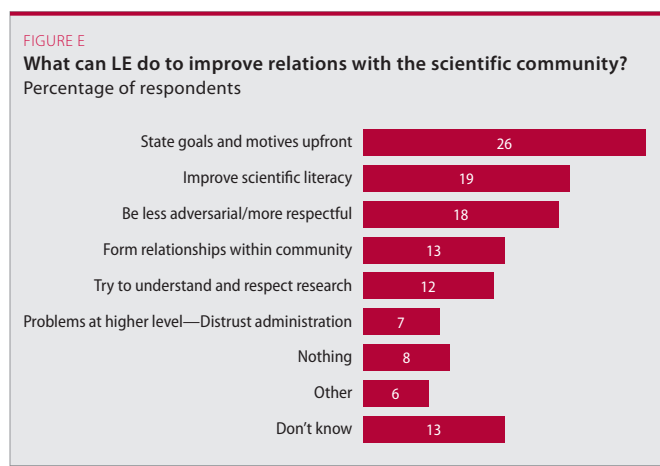
who had previous interaction with law enforcement indicated that being contacted as a reference for a foreign student or researcher was a good or excellent reason, as opposed to 58 percent of those who had not. It is likely that this is a result of previous experience, since 30 percent of survey respondents reported that their past interaction with law enforcement was in regard to a visa or security clearance for themselves or a colleague. Nonetheless, the low percentage of scientists with previous law enforcement contact suggests that many of the attitudes of distrust are based upon stereotypes rather than actual experiences and that these perceptions have led to an elevated level of suspiciousness that law enforcement will have to overcome in the future. Together the results show that despite expressed suspicions of the FBI and opposition to law enforcement monitoring research, scientists are willing to aid law enforcement in certain situations. When asked in an open-ended context about what the FBI could do to improve relations with the scientific community, no single solution emerged (Figure E). A common suggestion from the respon-

dents was to set up an appointment and approach the scientist in a professional manner. Respondents also stated that it would be beneficial for authorities to first contact the individual's department head or supervisor and initiate contact through an institution's official channels.

By taking steps to address suspicions early in any interaction and by treating scientists respectfully and professionally, law enforcement representatives are more likely to build a foundation of respect with their interaction and displace existing hostility. Perhaps the single most important step would be to adopt simple procedures for an introductory phone call, email, or letter that clarifies the specific purpose for the meeting and details what the agent hopes to gain from the interaction. To ease the concerns expressed by scientists regarding their collaborators or their privacy, it is imperative that an agent establish clear boundaries about what they plan to do and plan not to do in any interaction. Being clear about the purpose of the meeting should alleviate suspicions and increase the likelihood of full cooperation.

Many scientists indicate that an understanding of science by an agent would ease their suspicions and therefore it may be helpful to increase the scientific literacy of law enforcement agents. Among researchers who felt that an official from law enforcement understood their work, 81 percent were receptive to helping in a criminal investigation, while only 63 percent of researchers who felt that a law enforcement official did not understand their work were receptive to helping. From this we conclude that scientists are most comfortable talking about their work to others that demonstrate familiarity with scientific concepts, possibly because they are less concerned that their work will be misunderstood.

Our survey shows that scientists share many of the common stereotypes held of law enforcement by the general public. More interestingly, it elucidates some issues that are specific to the science community, such as a general expressed reluctance to discuss research with law enforcement, despite an expressed willingness to



share expertise to aid in criminal investigations. Increasing scientific literacy among law enforcement personnel who work with scientists may be one important avenue to ensure a strong relationship and clear communication between the law enforcement and science communities. The consequences of allowing discord between law enforcement and scientists to linger affect public safety as criminal, terrorist, and national security challenges become increasingly technical, and close collaboration with the scientific community becomes even more essential. We hope to apply the lessons learned in this survey towards improving the training and awareness of the law enforcement community in their interaction with scientists.

METHODS

THE SURVEY—The Federation of American Scientists, in collaboration with the Federal Bureau of Investigation and Greenberg Quinlan Rosner Research, developed a survey to gather baseline data on the prevailing points of view of scientists towards the law enforcement community. The survey contained a mix of multiple choice and open-ended questions. In collaboration with the American Association for the Advancement of Science the survey was distributed to 10,969 AAAS member scientists over a four-week period between January 23 and February 18, 2008. AAAS members were selected if they had a functional email address and had identified their primary field of study as biology, chemistry, physics, earth science, or engineering. Emails contained a link to a secure website where members could answer the survey questions. At the end of

the time period 1,332 surveys were completed, and the resulting data were analyzed. The data were statistically weighted to be proportionally representative of the scientific disciplines of the AAAS membership. The margin of error associated with the total data set is +/- 2.7 percent.

Thermometer rating system – Two survey questions asked respondents to indicate their feelings towards a particular person, organization, or situation using a thermometer system. In this type of question, respondents give their response as any number between 0 and 100, with 100 being a very warm, favorable feeling, and 0 being a very cold, unfavorable feeling, and 50 meaning not particularly warm or cold.

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TABLE 1

Complete list of questions asked in the survey

Question 1. Please indicate your feelings toward the following people and organizations with 100 meaning a VERY WARM, FAVORABLE feeling; 0 meaning a VERY COLD, UNFAVORABLE feeling; and 50 meaning not particularly warm or cold. You can use any number from 0 to 100, where the higher the number the more favorable your feelings are toward that person or organization.	
Local law enforcement	Institutional Review Board (IRB)
State level law enforcement	Campus police
Federal Bureau of Investigation (FBI)	Head of your department
Institutional Biosafety Committee (IBC)	Private grantmaking organizations
Department of Homeland Security (DHS)	Government grantmaking organizations
Private security, such as those found at private research centers	
Question 2. The following people and organizations might have some role in monitoring scientific research under certain circumstances. Please indicate your feelings about each one having some role in monitoring scientific research under certain circumstances, with 100 meaning a VERY WARM, FAVORABLE feeling; 0 meaning a VERY COLD, UNFAVORABLE feeling; and 50 meaning not particularly warm or cold. You can use any number from 0 to 100, where the higher the number the more favorable your feelings are toward that person or organization having some role in monitoring scientific research under certain circumstances.	
Local law enforcement	Institutional Review Board (IRB)
State level law enforcement	Campus police
Federal Bureau of Investigation (FBI)	Head of your department
Institutional Biosafety Committee (IBC)	Private grantmaking organizations
Department of Homeland Security (DHS)	Government grantmaking organizations
Private security, such as those found at private research centers	
Question 3. From time to time, individuals other than your immediate colleagues might be interested in the work you do. Please indicate how receptive you would be to sharing details of your work for each of the following:	
Federal law enforcement agent	State level politician
State law enforcement officer	Federal level politician
Local law enforcement	Private sector scientist
An official from a regulatory agency	Public sector scientist
An agent from an intelligence agency	Academic/non-profit scientist
Corporate executive in a related industry	A journalist
Private citizen with an interest in science	
Question 4. There are many reasons that an outside authority might want to talk to you in your role as a scientist. For each of the following, please indicate whether you believe it is an excellent, good, fair, or poor reason for an outside authority want to talk to you. 1 = Excellent, 2 = Good, 3 = Fair, 4 = Poor	
Intellectual curiosity about your area of research	
To evaluate a research grant you have applied for	
To assess issues surrounding an intellectual property case	
To be evaluated by an Institutional Review Board (IRB)	
To have government regulators evaluate the research as a potential public safety risk	
To have law enforcement evaluate the research as a potential public safety risk	
To be shared with law enforcement to aid in an ongoing criminal investigation	
To be shared with law enforcement to aid in an ongoing terrorism investigation	
To be evaluated by an Institutional Biosafety Committee (IBC)	
To have law enforcement evaluate if the research is a potential target of theft of foreign intelligence agencies	
Question 5. Now you are going to see some pairs of statements about working with (SPLIT A - Law enforcement officers, SPLIT B - FBI Agents) who sometimes need to talk with scientists in the course of their duties. After reading each pair of statements, please indicate whether the FIRST statement or the SECOND statement comes closer to your own view, even if neither is exactly right. 1 = FIRST statement STRONGLY, 2 = FIRST statement NOT SO STRONGLY, 3 = SECOND statement NOT SO STRONGLY, 4 = SECOND statement STRONGLY I trust them OR I am suspicious of them	
I believe that they are on my side OR I believe they are working against me	
They understand my work OR They don't understand my work	
They work well with the science community OR They do not work well with the science community	
They are primarily interested in the scientific value of my work OR They are primarily interested in restricting my work for security purposes	
Scientists working closely with law enforcement agents is good for the scientific community OR Scientists working closely with law enforcement agents is bad for the scientific community	
Some science needs to be kept under tight security and not released to the public for safety or security reasons OR All science should be made open to the public once it is ready for publication	
More security equals more censorship OR More security does not equal more censorship	
Question 6. There are many reasons that (SPLIT A - a law enforcement officer, SPLIT B- an FBI agent) might want to talk with a scientist. For each of the following, please indicate whether you believe it is an excellent, good, fair, or poor reason for (SPLIT A - a law enforcement officer, SPLIT B- an FBI agent) to approach a scientist. 1 = Excellent, 2 = Good, 3 = Fair, 4 = Poor	
To clarify the nature of the scientist's research	
For the evaluation of the scientist's research as a potential public health risk	
To assess intellectual property rights issues related to the scientist's research	
To aid in an ongoing criminal investigation	
To aid in an ongoing terrorism investigation	
To request technical expertise in a particular area of science or technology	
To interview the scientist because they are listed as the sponsor of a foreign student or researcher	
To evaluate if a scientist's work has possible alternate applications that might constitute a security risk, sometimes called "dual-use" research	
To help safeguard it from theft by potential terrorists	
To inquire about the activities of one of your colleagues that is an American citizen	
To inquire about the activities of one of your colleagues that is not an American citizen	
For the evaluation of the scientist's research as a potential national security risk	

TABLE 1 (continued)

Complete list of questions asked in the survey

Question 7. Suppose you received a message that a (SPLIT A- Law enforcement officer, SPLIT B- FBI agent) wanted to speak with you in your capacity as a scientist. For many people, this might raise some concerns about why the (LE officer/Agent) would want to contact them. Please indicate how concerned would you be that the (LE officer/Agent) would... 1 = Very concerned, 2 = Somewhat concerned, 3 = Not too concerned, 4 = Not at all concerned.	
Read your personal emails	
Ask you to monitor the activities of one of your colleagues	
Investigate immigration issues related to you or one of your colleagues	
Interfere with you conducting your research	
Misinterpret your research as a potential public safety risk	
Misinterpret your international travel as evidence of illegal activities	
Stop you from publishing your research	
Interfere with your research funding	
Embarrass you in the eyes of your colleagues	
Question 8. If you saw something suspicious happening in your workplace that made you concerned about a potential threat to public safety, who would you feel comfortable reporting to?	
Your department head	A federal law enforcement officer
Your immediate supervisor	A local law enforcement officer
An institutional safety committee	A state law enforcement officer
Public safety/security officer affiliated with your institution	An institutional review board
Other (Specify)	
Question 9. Have you or any of your colleagues ever been approached by (SPLIT A - a member of law enforcement, SPLIT B - an FBI agent) to discuss something related to your work as a scientist? If yes, Please describe the circumstances under which you were approached by (SPLIT A - a member of law enforcement, SPLIT B - an FBI agent) to discuss something related to your work as a scientist.	
Question 10. What is the best way for (SPLIT A - Law enforcement officers, SPLIT B - FBI Agents) to contact a scientist?	
Question 11. What could (SPLIT A - a member of law enforcement, SPLIT B - an FBI agent) do to improve relations with the scientific community?	
Question 12. What could scientists do to improve relations with the (SPLIT A - law enforcement community, SPLIT B - the FBI)?	
Question 13. What is your gender?	
Male	Female
Question 14. In what year were you born?	
Question 15. Which of the following best describes the current stage of your career?	
Undergraduate	Laboratory technician
Graduate student	Academic staff scientist
Post doctorate	Lab manager
Primary investigator	Retired
Industry scientist	
Question 16. Please indicate how often you work with foreign nationals in you capacity as a scientist.	
Often	Never
Sometimes	I am a foreign national
Rarely	
Question 17. Please indicate the highest biosafety level (BSL) work environment you have worked in.	
BSL1	BSL4
BSL2	I have never worked in a facility with biosafety levels
BSL3	I don't know
Question 18. Please indicate which of the following materials you work with in your capacity as a scientist:	
Animals	Explosive, corrosive, or otherwise toxic chemicals
Viruses	Radioactive isotopes
Bacteria	Select agents
Fungi	Nuclear material
Human subjects	None of the above
Question 19. Please mark the category that best describes the sector you are employed in as a scientist.	
Academic	Military
Government, but not military	Private sector
Question 20. Please indicate the level of security in your current workplace.	
High (Military level security)	
Medium (Secure facility, picture ID required for access, armed guards)	
Low (Restricted access to facility, some security personnel presence)	
Minimal (Basic locks on doors, no restricted access to facility)	