
**Consequences of Whistleblowing for the Whistleblower
in Misconduct in Science Cases**

Final Report

Submitted to:

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Prepared by

Research Triangle Institute

Contract No. 282-92-0045

Delivery Order No. 3

Deliverable No. 8

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1. Background and Purpose of the Project

Uncovering misconduct in science, like misconduct in other areas of industry and government activities, often depends on the willingness of those aware of or suspecting misconduct to report it. Uncovering such misconduct is generally recognized to be of significant value to society and to the integrity of scientific research. However, the willingness of individuals to allege misconduct is likely to depend on how the system deals with and protects them when they come forth with their allegations. Potential whistleblowers must consider whether the allegation will be taken seriously and the report treated confidentially and whether reporting will provoke retaliation not only from those accused but also from the larger academic and scientific community.

a. Empirical Evidence

There is some empirical evidence, as well as a substantial number of anecdotal reports, to suggest that students and faculty engaged in scientific research are, or feel they are, vulnerable to retaliation if they report misconduct on the part of their students, peers, or teachers. For example, a recent paper in *American Scientist* (Swazey, Anderson, and Louis, 1993), reported a survey dealing, in part, with this topic. The survey was conducted by mail with 2000 doctoral candidates and 2000 of their faculty across 99 graduate departments in four disciplines -- chemistry, civil engineering, microbiology, and sociology. The survey asked both students and faculty: "Could you report cases of suspected misconduct (a) by a faculty member [or] (b) by a graduate student in your department without expecting retaliation?" The results suggest that substantial numbers of both students and faculty share the perception that they would probably or definitely risk retaliation from a whistleblowing incident, although students were more likely (53 percent) than faculty (26 percent) to feel vulnerable to retaliation. The authors also report that faculty reported feeling safer in reporting a graduate student than in reporting another faculty member, with 60 percent feeling safe in reporting a student but only 35 percent feeling safe in reporting a colleague. Other findings included greater perceived vulnerability of junior than senior faculty and of those who reported observing a case of misconduct than of those who had not.

This study also asked interviewees about their exposure to misconduct in science and other types of misconduct. The most noteworthy finding is that six to nine percent of both students and faculty report direct knowledge of plagiarism or falsification by faculty. Since the number of allegations of misconduct is much smaller than this, these data suggest that substantial numbers of instances of misconduct go unreported -- as would be expected given the level of concerns about retaliation voiced by those surveyed.

This study dealt with self-reports and beliefs of a cross section of students and faculty in the selected departments. While it reported on their observations of misconduct and their beliefs about potential retaliation if they were to blow the whistle, it did not provide empirical information on the extent to which actual whistleblowers experience retaliation.

Another study published in the same year (U.S. Merit Systems Protection Board, 1993), although focused on a much broader range of misconduct by government employees than just scientific misconduct, went well beyond perceptions of the propensity to report and feelings of vulnerability. It collected information from over 13,000 government employees to examine the extent of exposure to misconduct, the extent to which those exposed reported the misconduct, the reasons why some did not report, and what happened to those who did. Key findings from this study included the following:

- Eighteen percent of those surveyed reported personal awareness of misconduct;
- Half of those who knew of misconduct had reported it (up from 30 percent in a 1983 survey);
- Of those who did not report the misconduct, 60 percent believed that reporting it would have no impact and 33 percent did not report because they feared retaliation;
- Thirty-seven percent of those who reported the misconduct reported subsequent threats or retaliation; and
- Nearly half of all those who reported threats or retaliation believed that they experienced each of the following: shunning by coworkers or managers (49 percent); verbal harassment or intimidation (47 percent); and poor performance appraisals (47 percent).

Other studies have focused on those who have reported retaliation (GAO, 1993). However, we know of no study that has specifically investigated whistleblowers in cases of scientific misconduct. This study is ground-breaking in that regard.

b. Legislative and Regulatory Background

Current Federal regulations [42 CFR 50 103 (d) (13)] require that policies and procedures developed by institutions to handle allegations of misconduct must include provisions for "undertaking diligent efforts to protect the positions and reputations of those persons who, in good faith, make allegations." These regulations also make the institution responsible for notifying the Department of Health and Human Services in the event that there is an immediate need to protect the interests of person(s) making allegations [42 CFR 50 104 (b) (3)].

Although there are Federal regulations in place, the effectiveness of these regulations remains a question. Anecdotal information suggests that some whistleblowers actually risk their careers when making allegations. However, more systematic information is required to assess the full impact of whistleblowing on the lives and careers of whistleblowers.

In order to strengthen the effectiveness of existing laws protecting whistleblowers, Congress passed the NIH Revitalization Act of 1993 (P.L. 103-43) which included a provision requiring the Secretary of Health and Human Services to develop regulations for the protection of whistleblowers and individuals who cooperate in the investigation of scientific misconduct. More specifically, Section 163 of the Act stipulated that these regulations were to deal with : (1) prevention of retaliation or, failing that, (2) responding to retaliation by an institution that applies for Public Health Service (PHS) funds, its officials, or agents against an employee who in good faith: (1) alleges scientific misconduct, (2) alleges coverup of scientific misconduct, or (3) cooperates with an investigation of scientific misconduct.

Legislative language and the Conference Report dealing with Section 163 requirements make it clear that Congress deems protecting whistleblowers to be the responsibility of the Department. Congress directed the Secretary to issue regulations that included standards of proof of retaliation that are consistent with the Whistleblower Protection Act of 1989. The standards in that Act made it easier for whistleblowers employed by the federal government to establish that they had been subjected to retaliation. Similar

regulations, Congress presumed, can offer better protection to those involved in PHS scientific misconduct cases outside government employment.

The NIH Revitalization Act of 1993 also created a Commission on Research Integrity which was established in March, 1994 to make recommendations to the Secretary and Congress on how the PHS should deal with research misconduct in federally-funded research. In an interim report released in January 1995, the Commission identified three problem areas on which their recommendations aimed at ensuring the responsible conduct of research will focus: (1) the definition of research misconduct, (2) the lack of institutional standards for good research practices, and (3) retaliation against whistleblowers.¹

Congressional hearings and the mandate for additional regulation and protection for whistleblowers presume that earlier regulations were not sufficient to protect whistleblowers. As the evidence reviewed above and anecdotal information suggest, there may be cases in which whistleblowers have been retaliated against under current regulations. The principal purpose of this study was to determine in a more systematic way what types of actions were taken following allegations, what the direct outcomes of these actions were, and what benefits were gained or what retaliation has been suffered by which whistleblowers, under various circumstances. This will in turn help ORI and the Commission meet their mandates to monitor what happens to whistleblowers, to develop a system for on-going monitoring, and to continue to improve regulations to target the types of abuses that have already occurred.

c. Purpose of This Study

As part of this overall comprehensive effort to examine research practices, The *"Study of the Consequences of Whistleblowing for the Whistleblower in Misconduct in Science Cases"* attempted to contact and interview by mail those individuals listed in the Office of Research Integrity (ORI) files as having made allegations of scientific misconduct. Only individuals involved in closed cases were contacted for the study. The study was intended to provide an empirical base for consideration of the consequences experienced by whistleblowers in varying positions within the scientific community and thus, act as a source to inform the efforts of both the Commission on Research Integrity and ORI staff.

The aim of the study was to collect data on what types of actions were experienced by whistleblowers during and after their allegation, how these actions impacted their personal and professional lives, and to gather more detail about the circumstances of the allegation (i.e. the relationship to the accused, the type of allegation, the outcome of the allegation and the amount of publicity which it received, etc.). In addition to reporting on the specific consequences and larger impacts of whistleblowing on whistleblowers, we have also sought to understand the circumstances in which whistleblowers are more or less likely to suffer adverse consequences of their act. Such findings should prove helpful in identifying circumstances requiring particular vigilance on the part of ORI and institutions supported with PHS funds. Due to the small number of cases involved, the study must be considered primarily a descriptive work although it does, for the first time, produce some statistical data on the perceived consequences of alleging misconduct in scientific research.

¹ ORI Newsletter, Vol. 3, No. 2, pp. 1-2, March 1995

2. Study Methods

a. Instrument Contents

Prior to awarding a contract to the Research Triangle Institute (RTI) in August, 1993, ORI had developed a draft instrument for a small pretest. RTI efforts concentrated primarily on making the existing survey easier for whistleblowers to complete on their own by formatting question and answer categories. We tried to make certain that wording of the questions was clear and the intent of each question was unambiguous. The only substantial additions to the instrument content were a series of three open-ended questions, appended to the fixed-response items included in the instrument, which allowed whistleblowers to give personal accounts of their experiences and advice to other potential whistleblowers.² A copy of the full survey instrument plus letters used to obtain contact information and solicit participation appear in Appendix A.

b. Data Collection

Data collection was carried out in two phases. First, we used information from ORI's files to locate as many whistleblowers as possible and to obtain up-to-date mailing addresses. Second, we implemented the Whistleblower Survey.

Database Preparation and Advance Mailing. The following pieces of information were available for each name in the closed case file delivered by ORI:

- the ORI case reference number consisting of the year the allegation was made known to ORI and a sequential number;
- the name of the institution where the alleged misconduct occurred;
- the name of the complainant (whistleblower)³;
- the work address and telephone number (if available) of the complainant at the time the alleged misconduct was reported;
- the home address and telephone number (if available) of the complainant at the time the alleged misconduct was reported;
- whether the case involved an investigation or an inquiry (some cases had a delineation of "not" in this data field and were classified as "unknown, not pursued" as regards their level of inquiry/investigation);
- whether the report was made to the institution or directly to ORI; and

² This report does not analyze those open-end items but is focused instead on quantitative analysis of fixed-response items.

³ In this report, we use the terms complainant and whistleblower interchangeably. In every case we mean to denote a person who has made an allegation of scientific misconduct.

- the outcome of the case.

We created a database from this information and used it as the foundation for a control system for the initial address verification mailing and the full mail survey.

The advance contact effort consisted of three phases--two mailings and a followup telephone call--in an attempt to locate a valid address to send the questionnaire. Each successive phase occurred 4-6 weeks apart, in order to allow time for whistleblowers to respond.

We conducted telephone tracing on the cases which had not responded to our two mailings. If the whistleblower was no longer at the location and/or telephone number listed, we made inquiries in an attempt to locate the individual. After exhausting all data available about the missing individual, we attempted to use data about other whistleblowers in the database in order to facilitate the search for the remaining unconfirmed addressees. In a few instances, this proved successful. Former colleagues were able to direct us either to the whistleblower or to someone who might know the whistleblower's whereabouts. After several months of such tracing efforts, we were able to obtain current addresses for 104 of the 127 (82 percent) of the original group.

Survey Administration. The survey administration component of the study began with mailout of a survey packet which included a cover letter, questionnaire and pre-stamped return envelope to all persons in the data file for whom we were able to confirm an address. We sent out a total of 105 survey packages, including one to a person who notified us that he was a whistleblower whose case was closed who should have been included in our study.

Using a database compiled from updated address information, we generated labels and sent survey packets to the address preference indicated by the whistleblower during the address verification activities. A total of 38 packets were sent out to home addresses and 67 packets to work addresses in the first round of mailing. The survey cover letter requested return of the completed questionnaire within two weeks of receipt. As expected, the address information collected in the initial phase facilitated delivery of the survey questionnaires. Only one packet of the initial 105 was returned due to invalid address. Further results of the mailout are discussed in section 3 when we review the response rates and representativeness of the completed surveys.

Four weeks after mailing the questionnaires, we made a reminder call to each individual who had not responded. We made calls to the telephone numbers for the addresses used in the mailing (i.e. if the preferred address for mailing was the residence, followup was made to the whistleblower's home). For whistleblowers who preferred to be contacted at home, we left messages on answering machines explaining the nature of the call. However, if after multiple attempts, we were unable to reach a whistleblower using the preferred location, we attempted to reach him/her at the alternate location if one was available. Through this initial round of reminder calls we determined:

- Whether the address was current for the whistleblower;
- Whether the survey arrived at the address; and
- Whether the whistleblower planned to return the survey.

Our reminder calls urged individuals to return the completed questionnaire. Using the script shown in Appendix B, the caller explained the nature of the survey and asked whether the questionnaire was received. If it was not, we verified the address and name and sent a replacement immediately. If the survey was received but completion was delayed, the caller urged the individual to return it as soon as possible. Many whistleblowers were inclined to complete and return the questionnaire once reminded of the importance of the information they would provide.

Approximately five weeks after initial distribution, we sent a second survey packet to those from whom we had not received a completed questionnaire, with a slightly amended cover letter. The letter referenced the previous mailing and urged the person to complete and return the enclosed form immediately.

Two weeks after the second mailing, we began another series of telephone calls to those who had not responded. Many of those contacted said that they had already returned the completed survey. In all but 1 case, the surveys arrived for those who reported them as having been returned.

Through the efforts described above, we received a response from 89 members of the study population included in the survey mailout component, with completed interviews from 68 eligible finalized cases. We describe the results of our recruitment effort in more detail in the next section. Specifically, we present the results of all these contacts and discuss the response rate and representativeness of the surveys returned to us for analysis. Then we turn to a more substantive review of what the survey indicates about the consequences of whistleblowing for the whistleblower.

c. Analyses

Before turning to the analyses of response rates and more substantive findings, several points about our survey design and analytic approach are worth noting. First, we selected the entire universe of cases in ORI's file for study, we did not select a sample. Technically, this is a census and not a sample survey. In addition, in discussions with ORI, it has been clear that the closed cases in their files are not representative of a larger set of cases. They simply represent the set of closed cases about which ORI is knowledgeable. Because we attempted to complete surveys with every person in the ORI file and because there is no basis for extrapolating the results of this survey to some larger universe of cases, the typical statistical tests of significance and estimates of standard errors of estimate that we normally apply to sample survey data are inappropriate in this study. Rather, we can simply take the data reported as descriptive information about a conveniently available set of whistleblowers. The differences that appear in the data are the real differences that exist in this population -- no significance tests are needed to assure that the differences were not due to random error. Rather, only the practical question remains -- how big a difference should be considered meaningful? The answer to this is more political than scientific and is really the questions of how big a difference would make ORI, or the scientific community generally, want to change its policies and procedures. In most cases, we have discussed differences only when they exceeded 10 percent and we have drawn major conclusions only when the differences are substantially larger than this.

The analyses in this report represent a first cut through the data. They are descriptive and largely cross-tabulations of one variable or one set of variables with another. More complex multivariate techniques could be used to define measures empirically or try to better understand possible causal connections in the data. However, these techniques will be of limited use with this dataset due to the relatively small number of observations (N=68) in this dataset. In one sense, this study represents a large

case study of a set of whistleblowers. There is an extensive set of information about each whistleblower in the study and we have explored some of the major relationships among these factors in this report. While we cannot make strong inferences from the data in this report, they represent the best information available to date on the consequences of whistleblowing for the whistleblower in cases of scientific misconduct. At a minimum, they provide the basis for formulating a set of hypotheses that others might explore in additional studies or in additional analyses of this dataset.

3. Analysis of Survey Response Rate

Before turning to the descriptive analyses that are the heart of this final report, it is important to answer the following two questions:

- What was the response rate to the Whistleblower Survey?
- Do those who completed the survey appear to represent the full set of cases of interest to ORI?

To address these two questions, we used a combination of information about cases derived from ORI's case files and the results of our survey mailings and other contacts.

a. Overall Response Rates

Table 1 indicates that, after tracing and other follow-up efforts described in the previous chapter, we were able to obtain what appeared to be a current address and/or other current contact information for 104 of 127 or 82 percent of the cases listed as whistleblowers in ORI's files.⁴ The table also indicates that, using this address information (plus information from the one self-selected case), we were ultimately able to obtain completed survey forms from 68 of 105 whistleblowers (65 percent). Reasons for 36 non-completions include 11 individuals who reported no involvement as a whistleblower and were deemed ineligible (10.5%), 10 persons who refused to participate (9.5%), and 16 individuals who could not be contacted in the final round after obtaining what appeared to be a current address in the initial address verification stage of the study (15.2%). If we exclude the people we were unable to locate in the survey phase, we obtained responses from 76 percent of all complainants to whom we mailed surveys. Similarly, if we exclude those who reported themselves ineligible, we obtained responses from 72 percent of all surveys mailed.

TABLE 1

Comparison of Whistleblowers Who Completed Surveys With Initial Whistleblowing Cases

Measure	Original Frame	Surveys Mailed		Surveys Completed	
	(ORI Files) N	N	% Found	N	% Complete
Total Sample	128*	105*	82.0	68*	65.0

⁴ The numbers in the table, 105 and 128, respectively, each include one whistleblower who heard about the study, decided that he belonged in the study and to whom we sent a survey instrument (after conferring with ORI).

Age of Case					
Recent (1992/93)	14	12	85.7	9	75.0
Less Recent (1991)	16	14	87.5	5	35.7
Remote (1990 and Earlier)	97	78	80.4	53	67.9
Unknown	1	1	100.0	1	100.0
Who Conducted Inquiry/ Investigation					
Institution	82	67	81.7	43	64.2
ORI/OSI/NIH	33	26	78.8	19	73.1
Unknown/None	13	12	92.3	6	50.0
How Allegation was Pursued					
Inquiry	64	51	79.7	38	70.6
Investigation	50	42	84.0	29	61.9
Unknown, Not Pursued	14	12	85.7	1	50.0
Where Allegation Occurred					
Same Institution	73	56	76.7	38	67.9
Other Institution	53	47	88.7	29	61.7
Unknown	2	2	100.0	1	50.0
What was the Case Outcome					
Misconduct Found	32	31	96.9	20	64.5
No Misconduct	94	72	76.6	47	65.3
Unknown	2	2	100.0	1	50.0

*127 cases on ORI file; 1 case added at survey stage due to call in by whistleblower.

It was surprising to find that one in ten complainants we were able to contact was not even aware that she/he had blown the whistle in the past. Although we were not able to pursue these cases, this finding suggests that, for some whistleblowers, the act of blowing the whistle may be so minor an event as to go undefined for them as "whistleblowing." An alternative explanation, for at least some cases, may be that the person named in ORI's files is a proxy complainant (such as the person's Dean when that person wished to keep his or her identity as a whistleblower secret). In such cases, the persons surveyed would have engaged in no whistleblowing themselves and would, therefore, report themselves ineligible.

b. Response Rates of Different Types of Whistleblowing Cases

In addition to the overall response rates, it is important to examine the response rates of whistleblowers in cases of different types. This is to be sure that there were no biases in who completed our survey and who did not.

Table 1 employs these factors to compare initial ORI cases with cases to whom we mailed a survey (i.e., those we found) and to cases completing the survey. Using the following factors -- age of case initiation, who conducted the inquiry or investigation, whether an inquiry and/or investigation was pursued, whether the allegation was made against someone at the same or a different institution, and whether misconduct was found -- we were able to develop what

appeared to be good contact information for at least three-fourths of all cases of every type. Although some of the differences are small, the middle columns indicate that it was relatively more difficult to find complainants when: (1) no misconduct was found (we found 77 percent of these versus 97 percent of those for whom misconduct was found); (2) the complainant and the accused were at the same institution (we found 77 percent as compared to 89 percent when they were at different institutions); (3) the case was pursued by a federal source (we found 79 percent compared to 82 percent of those whose cases were handled by their institution); or (4) the case reached only an inquiry stage (we found 80 percent compared to 84 percent for cases that reached the investigation stage). The easiest cases to find were those in which misconduct was found.

Ignoring the few cases in which the information was incomplete and coded "unknown" and the case which self-referred into the study, the percent of complainants who completed surveys mailed to them varied from 62 to 75 percent with one exception. Only 36 percent of complainants who initiated cases in 1991 completed the survey, a finding that does not fit with completion rates of 75 and 68 percent for more recent and more remote cases, respectively.

Although not shown in this table, the percent of completed surveys in each category appears to strongly resemble those in the initial set of cases. The only difference of note is that we were able to obtain completed surveys from a higher proportion of cases handled by ORI, OSI, and NIH than of cases dealt with at the institutional level because we apparently had better contact information for them than for other cases. All things considered, it appears reasonable to report information from those who completed the survey to represent all ORI cases.

Before leaving ORI's data, it is important to note a few key features of the cases we selected to examine. First, most of the cases in our study, were initiated before 1990. Second, most of our cases (43 of 68 or 63 percent) were investigated by the institutions themselves and not by ORI or its predecessors. Although there were more cases that involved only inquiries than cases that involved investigations, there were a substantial number of cases of both types in our sample. Surprisingly, both the ORI files and our sample include a significant number of complainants who were from an institution other than the one where the accused was located at the time of the allegation. Finally, and quite significantly, in roughly seven-in-ten cases there was no finding of misconduct. Thus, a large proportion of the whistleblowers in our study made allegations that were not substantiated by subsequent inquiries or investigations.

c. Who Are the Whistleblowers Included In This Survey?

In addition to knowing that a sufficient number of complainants who resemble those in ORI's files completed the survey, our ability to interpret the data depends on our more detailed knowledge of who it is we actually surveyed. For this purpose, we turn to the information in the survey.

Table 2 is based on survey data and indicates that, at the time of the allegation, (1) the vast majority (91%) of complainants held doctoral level degrees;⁵ (2) more than 3 in 4 (78%) worked in academic settings and that most of the others worked for the government (15%); (3) of the 53 whistleblowers who worked in academic settings, 31, roughly 3 in 5, were in basic science programs while the remainder were split between clinical and other programs; (4) about half of the complaints (56%) held tenured positions and almost all (93%) worked full time; (5) just over one-third of complaints (35%) were full professors, 28 percent held other academic ranks, fewer than one-in-ten (9%) were post-doctoral or graduate students, and the remainder (28%) held no academic rank; and (6) relatively few complainants (just 18%) held an administrative or management position.⁶

⁵ Given the lack of variation on some measures (e.g., holding a doctoral degree or being employed full time), we excluded such items as analytic factors in most later tables.

⁶ In the survey questionnaire, we asked whistleblowers to check all positions they held at the time of the whistleblowing incident. Someone could report being a department chair and a lab chief. To avoid double counting in this item, we recoded the set of responses in a sequential fashion. A whistleblower who check senior administrator was coded as a senior administrator regardless of anything else checked. A whistleblower who checked department chair/head, was coded as such unless he or she had checked senior administrator -- again regardless of anything else he or she might have checked. This same logic continued through the remainder of the subcategories.

TABLE 2

Self Reported Characteristics of Whistleblowers Completing Surveys

Whistleblower Characteristic	Frequency	Percent
Total Number of Whistleblowers	68	100.0
Degree Held		
Doctorate (Ph.D. or Sc.D.)	45	66.2
Doctor (MD/Ph.D., M.D., M.B., or D.D.S.)	17	25.0
Other	6	8.8
Work Setting		
Academia	53	77.9
Government	10	14.7
Other	5	7.4
Type of Academic Department		
Basic Science	31	45.6
Clinical	12	17.6
Other	10	14.7
Non-Academic Setting	15	22.1
Continuity/Security of Position		
Tenured	38	55.9
Nontenured	30	44.1
Full/Part-time		
Full	63	92.6
Part	3	4.4
Student only	2	2.9

TABLE 2 (Cont'd)

Self Reported Characteristics of Whistleblowers Completing Surveys

Whistleblower Characteristic	Frequency	Percent
------------------------------	-----------	---------

Academic Rank		
Professor	24	35.3
Associate professor	10	14.7
Assistant professor	8	11.8
Instructor/lecturer	1	1.5
Graduate Student/Post-Doc	6	8.8
None	19	27.9
Institutional Position*		
Senior Administrator	2	2.9
Department Chair/Head	5	7.4
Division Head	2	2.9
Lab Chief	1	1.5
Section Chief	2	2.9
None	56	82.4

*Categories assigned sequentially. For example, a person who is a department chair and a lab chief is coded only as department chair.

4. Findings: Consequences of Whistleblowing for the Whistleblower

The primary purpose of this study was to identify the consequences whistleblowers experience as a result of blowing the whistle. An important secondary purpose was to see if and how the particular characteristics of the whistleblowers, their allegations, the ways in which their allegations were handled, or the outcomes of their allegations help explain the consequences they experienced and, as a result, serve as guides for the formulation of regulatory development.

a. Specific Consequences of Blowing the Whistle

We asked whistleblowers in our survey to tell us which, if any, of a list of negative outcomes they experienced either during the whistleblowing incident or afterward. The list included a total of 15 possible negative actions such as being fired, being denied a promotion, experiencing a loss of research support, or being pressured to drop the allegation.⁷

How many complainants reported negative actions and how many actions did each experience? Table 3 indicates the number of people reporting no negative consequences, a single negative consequence, or multiple negative consequences of their whistleblowing. Forty-seven whistleblowers (69%) reported negative outcomes. Twenty-one whistleblowers (31%) reported experiencing no negative consequences at all and almost as many (19 or 28%) reported only a single negative consequence. Nearly three-fourths (74%) experienced two or fewer negative consequences but 12 percent reported three to five negative consequences and 15 percent reported six or more such outcomes.

What negative actions were taken against whistleblowers? Of course, different consequences vary in their severity as well as in their frequency. Being fired for whistleblowing is a lot more serious than experiencing delays in getting manuscripts reviewed.

TABLE 3

Number and Percent of Whistleblowers Reporting Different Numbers of Negative Actions

Number of Negative Actions Experienced	Whistleblowers
--	----------------

⁷ We also asked a question about positive outcomes of whistleblowing, such as commendations or other forms of recognition. However, only one person checked any of the categories included in this list and four more reported single positive outcomes -- being thanked (2 people), not being terminated (1 person), and getting a new position (1 person). Consequently, we did not analyze this information further.

	N	%
None	21	30.9
One	19	27.9
Two	10	14.7
Three-Five	8	11.8
Six or More	10	14.7
TOTAL	68	100.0

In Table 4, we present the number and percent of people reporting consequences in four broad areas ranging from the most to the least serious -- (1) loss of position, (2) denial of advancement, (3) loss of research resources or opportunities, and (4) being hassled, pressured or delayed. In each category, we list several items included in the survey and, for each item, we report the number and percent of complainants who reported that negative action.

In the survey, whistleblowers were given the opportunity to indicate if they had experienced each negative consequence. The numbers reported in Table 4 are the actual reports on each item.⁸ Each person is counted as many times as the number of items they

TABLE 4
Number and Percent of Whistleblowers Reporting Specific Negative Actions

Negative Actions Experienced	Whistleblowers
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⁸ As noted in this and many later tables, there were three individuals who reported experiencing none of the negative consequence on our list but did report some other negative consequence. We have kept them as a separate line in the tables in order to account for all whistleblowers who completed surveys.

	N	%
Loss of Position		
Fired	8	11.8
Not Renewed	8	11.8
Denial of Advancement		
Denial of Salary Increase	8	11.8
Denial of Promotion	5	7.4
Denial of Tenure	6	8.8
Loss of Research Resources/Opportunity		
Reduction in Research Support	14	20.6
Reduction in Travel Funds	7	10.3
Loss of Desirable Work Assignment	7	10.3
Reduction in Staff Support	7	10.3
Hassle/Pressure/Delay		
Pressure to Drop Allegations	29	42.6
Counter Allegation	27	39.7
Ostracism	17	25.0
Lawsuit Threatened	10	14.7
Delays in Reviewing Manuscripts	6	8.8
Delays in Processing Grant Applications	4	4.4
Unlisted Negative Action Only	3	4.4
No Negative Actions	21	30.9

checked. One example should make this clear. Eight whistleblowers reported being fired and eight reported not being renewed. The 16 responses actually came from 13 individuals: 5 who reported only that they were fired, 5 who reported only that they were not renewed, and 3 who reported that they were fired and not renewed. Thus, although each row in this table represents a set of individuals who checked that response, the units in the table are actually consequences experienced rather than the people who experienced them.

This table indicates that complainants reported experiencing milder problems or no problems at all much more frequently than they reported experiencing the more severe consequences of blowing the whistle. Twenty-one complainants (31%) reported no consequences of the whistleblowing, 29 reported pressures to drop the allegation (43%), and 27 reported being subjected to counter allegations (40%). Ostracism by colleagues was also reported quite

commonly, with 17 complainants (25%) reporting such treatment.⁹ It is important to remember (see Table 3) that people often report more than one negative outcome. A total of 40 whistleblowers reported one or more negative actions listed under hassle, pressure or delay.

Unfortunately, a small but significant proportion of complainants reported very serious consequences of their whistleblowing. At least ten percent of complainants reported each of the following: 8 whistleblowers (12%) reported being fired, not being renewed, and/or being denied salary increases, 14 reported losing research support (21%), and 7 whistleblowers (10%) reported losing staff support and/or receiving less desirable work assignments. Again, it is important to keep in mind that these are often the same people. In fact, just 20 whistleblowers are responsible for all 70 consequences reported under the top three headings in this table.

On the one hand, these findings refute the notion that **every** whistleblower suffers substantial negative consequences. On the other, they confirm that whistleblowers **frequently** face the prospect of significant hardship for their efforts. A substantial proportion suffer at least some difficulties as a result of blowing the whistle and a sizeable group suffers devastating consequences such as losing their jobs.

Just knowing the extent of the problem, while extremely important, is insufficient information to help fashion more effective approaches for protecting whistleblowers. Instead, it is valuable to examine other information in this survey to try to determine which whistleblowers are hurt the most and in what circumstances. Such information will help ORI to tailor appropriate regulations and enforcement procedures and to target them on situations most likely to result in difficulties for complainants.

When did the negative actions occur? This part of the analysis examines the temporal patterns associated with negative whistleblowing outcomes. Table 5 reports on the same specific negative actions as appeared in the previous table. However, for each category, it distinguishes when the negative actions occurred -- during the period in which the whistleblowing case was open, after the case was closed, or during both periods. We asked three items only about the active period of the case -- whether the complainant lost his/her job, did not get renewed, or was subjected to pressures to drop the allegation(s). For this table, again, the numbers reported in each row are the individuals who report each consequence during each time period. Since some

⁹ In interpreting these findings, it is important to remember that people often report more than one negative outcome (see Table 3). For example, a total of 40 whistleblowers reported one or more negative actions listed under hassle, pressure or delay.

people report multiple consequences, they can be in more than one row. The temporal pattern they report for a particular consequence may be different than what they report for a different consequence. For example, a whistleblower could report being subjected to counter allegations only during the active phase of the investigation but report a loss of research support only after the event.

The table indicates first that when people are classified into the three time periods based on all of their consequences taken together (top row), 19 (28% of all whistleblowers) reported experiencing whatever negative consequences they experienced only during the event, 25 (37%) reported experiencing them both during and after the event, and only 3 people (4%) reported experiencing negative consequences exclusively after the active phase of the whistleblowing incident. These figures document that 44 of 47 whistleblowers who experienced negative outcomes (94%) as a consequence of whistleblowing experienced at least one such consequence while the case was still active. Conversely, a whistleblower who experienced no negative consequences while the case was active (i.e., 24 whistleblowers -- 3 after only and 21 no negative consequences) had only a one-in-eight chance of being subjected to any negative consequence.

The data for the individual negative consequences tell the same story. In some cases (e.g., pressure to drop allegations and being subject to counter-allegations), the most common pattern is for the events to occur exclusively while the case is pending. Seventeen whistleblowers reported being subjected to counter allegations during but not after the

TABLE 5

Number and Percent of Whistleblowers Reporting Specific Negative Actions During And/Or After Investigation of the Allegation

Negative Actions Experienced	Total	When Negative Action Occurred					
		Only During Incident		During & After Incident		Only After Incident	
		N	%	N	%	N	%
Total with Negative Action Experienced	47	19	27.9	25	36.8	3	4.4
Loss of Position	8	8	11.8	*		**	
Fired	8	8	11.8	*		*	
Not Renewed							

Denial of Advancement							
Denial of Salary Increase	8	2	2.9	5	7.4	1	1.5
Denial of Promotion	5	2	2.9	3	4.4	0	0.0
Denial of Tenure	6	2	2.9	3	4.4	1	1.5
Loss of Research Resources/Opportunity							
Reduction in Research Support	14	5	7.4	6	8.8	3	4.4
Reduction in Travel Funds	7	1	1.5	5	7.4	1	1.5
Loss of Desirable Work Assignment	7	0	0.0	6	8.8	1	1.5
Reduction in Staff Support	7	2	2.9	4	5.9	1	1.5
Hassle/Pressure/Delay							
Pressure to Drop Allegations	29	29	42.6	*		*	
Counter Allegation	27	17	25.0	9	13.2	1	1.5
Ostracism	17	8	11.8	9	13.2	0	0.0
Lawsuit Threatened	10	4	5.9	5	7.4	1	1.5
Delays in Reviewing Manuscripts	6	2	2.9	4	5.9	0	0.0
Delays in Processing Grant Applications	4	0	0.0	3	4.4	1	1.5
Unlisted Negative Action Only	3	0	0.0	2	2.9	1	1.5
No Negative Actions	21	--	--	--	--	--	--

*Item not asked for period following whistleblowing incident.

**One spontaneous report of post-incident firing excluded because not asked of all complainants.

incident, while only 9 reported being subjected to them during both periods. However, for the other adverse outcomes, the most common pattern is one in which the difficulties begin during the active phase and continue even after the investigation is over. This pattern is most apparent for those who reported a reduction in travel funds (5 both versus 1 only during) and/or loss of desirable work assignments (6 both versus not a single only during). In general the during only pattern is most common for the least severe consequences, while the during and after pattern is most common in more serious cases that require an administrative action -- such as denial of advancement or loss of research resources.

In general, this pattern of results suggests that ORI regulations focus first and foremost on limiting adverse actions while the case is still active. However, it also suggests the need for long-term vigilance, even after cases have been fully adjudicated.

Who took negative actions against the whistleblowers? We also asked complainants to tell us which individuals were responsible for each of these actions. Table 6 reports the number of whistleblowers who reported each type of person responsible for any one or more negative consequences. Each complainant is included only once in any row even if they indicated that a particular type of person was responsible for more than one negative action. However, as in earlier tables, each whistleblower can be counted in more than one row.

This table indicates that complainants report those they accuse to be nearly twice as likely to be responsible for negative actions against them as any other type of person (i.e., 25 whistleblowers (37%) indicated that the accused was responsible for a negative action while only 15 whistleblowers (22%) indicated that their colleagues were responsible in the next highest category. After the accused and colleagues, complainants report the Dean most responsible for negative actions (14, 21%), with Department Heads (13, 19%), and University Administrators (10, 15%) close behind.

Table 6 does not indicate what negative actions complainants report for each type of person. The patterns may be the same or different across the various types or responsible parties. We examined these patterns, in the aggregate, in Table 7. In this table, we assigned whistleblowers who reported any negative consequences to only a single category representing the most serious consequence they reported. Those who reported loss of position were assigned to that category, those who did not report losing their position but did report denial of advancement were assigned to the denial of advancement category, and so forth. The three

TABLE 6**Number and Percent of Whistleblowers Reporting Specific Persons Responsible for Any Negative Actions**

Person Responsible for Negative Actions	Whistleblowers	
	N	%
Institutional Official		
University Administrator	10	14.7
Dean of College/School	14	20.6
Department Chair/Head	13	19.1
Laboratory Chief/Head	3	4.4
Center Director	7	10.3
Colleague	15	22.1
Accused	25	36.8
Scientific/Professional Society	8	11.8
Student	1	1.5
Other	12	17.6

whistleblowers who reported only other negative consequences became their own category as did those who reported no negative consequences. Using these classification rules, we assigned 13 whistleblowers (19%) to the loss of position category, 4 (6%) to the denial of advancement category, 3 (4%) to the loss of research resources category, and 24 (35%) to the hassle, pressure, and delay category. With so few in the middle two categories, we examined the data and found that those classified as "denial of advancement" exhibited patterns of responses that were similar to those who lost their position, while those classified as "loss of research resources" exhibited patterns of responses that were more similar to those of whistleblowers in the hassle, pressure, and delay category. Consequently, we eliminated the intermediate categories and combined the top two and bottom two categories for purposes of this report. The result is that our primary comparisons are of the 17 whistleblowers (25%)

TABLE 7

Number and Percent of Whistleblowers Reporting Different Persons Responsible by Negative Action Category

Severity of Negative Actions Experienced	Total	%	Person Responsible							
			Accused		Colleagues		Institutional Official		Professional Society	
			N	%	N	%	N	%	N	%
Serious Negative Consequences	17	25.0	4	23.5	3	17.6	15	88.2	1	5.9
Less Severe Negative Consequences	27	39.7	14	51.9	4	14.8	10	37.0	4	14.8
Unlisted Negative Action Only	3	4.4	0	0.0	0	0.0	2	66.7	0	0.0
No Negative Consequences	21	30.9								
TOTAL	68	100.0								

who reported serious, potentially career-altering, negative consequences such as loss of position and/or denial of advancement and the 27 whistleblowers (40%) who reported less severe consequences such as the loss of research resources and/or being hassled, pressured, or delayed.

Using this new classification, Table 7 makes clear that institutional officials, as a group, are involved in almost all (88%) of the cases that experienced the most serious negative outcomes, while only about a quarter of the accused (24%) and fewer colleagues (18%) and professional societies (6%) are reported to be responsible for such outcomes. The pattern is very different for the less serious outcomes. For these, whistleblowers most often reported that the accused was responsible (52%), with institutional officials (37%) playing a significant role in these outcomes as well. Colleagues (15%) and professional societies (15%) were deemed less likely to have been responsible for even these minor negative outcomes. The most striking and clearcut finding in this table is that severe negative consequences that require administrative actions for implementation -- loss of position or denial of advancement -- were almost exclusively the result of actions by institutional officials.

These data suggest that, to prevent the most serious consequences of whistleblowing, ORI regulations and enforcement approaches will need to be targeted primarily at institutional officials. Additional focus on the accused is likely to address the bulk of the remaining difficulties experienced by whistleblowers.

Table 8 examines the temporal patterns for each category of person reported to be responsible for any negative action. We have used the overall measure of when the action occurred (i.e., all negative actions during, all negative actions after, some negative actions during each period). When negative actions are confined to the active period of the investigation, complainants ascribe blame for their negative outcomes most often to the accused (74%), less but nearly equally often to colleagues and institutional officials (47% and 53%, respectively), and least often (16%) to professional societies. When the consequences occur both during and after the incident, whistleblowers most often attribute responsibility for their bad outcomes to institutional officials (68%), then to the accused (40%), next to colleagues (24%), and least often to professional societies (16%). The accused and, to a lesser extent, colleagues appear to intervene negatively during the initial whistleblowing incident but their level of involvement appears to fall off after that (perhaps because in most cases the

TABLE 8

**Number and Percent of Whistleblowers Reporting Different Persons Responsible
by When Negative Actions Occurred**

When Negative Actions Occurred	Total	Person Responsible							
		Accused		Colleagues		Institutional Official		Professional Society	
		N	%	N	%	N	%	N	%
Only During Incident	19	14	73.7	9	47.4	10	52.6	3	15.8
During <u>and</u> After Incident	25	10	40.0	6	24.0	17	68.0	4	16.0
Only After Incident	3	1	33.3	0	0.0	2	66.7	1	33.3

accused is not found to have engaged in misconduct). Institutional officials, on the other hand, appear to stay involved for the long-run (presumably to protect the interests of their institution against further allegations). Like the previous table, this one suggests that ORI focus attention on the period of active case consideration and include both the institutional officials and the accused as major targets of its regulatory, monitoring, and enforcement efforts.

b. Consequences Experienced by Different Complainants

In the previous section, we described the negative outcomes whistleblowers experienced and looked for some structural characteristics of these outcomes that might be useful in helping to target the application of federal and institutional resources. In this section, we look at what happened to whistleblowers of different types to determine if there are some people who can blow the whistle with relative impunity while others find themselves particularly vulnerable to retaliation when they blow the whistle. Again, this may help focus resources where they can do the most good in protecting vulnerable whistleblowers.

How do complainants differ in the consequences they experience? Table 9 examines the relationship between the personal characteristics of complainants and whether or not they experienced negative consequences as a result of blowing the whistle. We looked at a number of complainant characteristics, including:

- **Degree Held.** In general, those with research-oriented doctorates only (PhD or ScD) were the most likely (73%) to experience negative consequences of whistleblowing and those with clinically-oriented degrees (MD, MD/PhD, MB, or DDS) were the least likely (59%) to experience negative consequences of whistleblowing.
- **Work Setting.** Academics were more likely (74%) than those in government (50%) or other settings (60%) to suffer negative consequences of whistleblowing.
- **Type of Academic Department.** Among academics, those in basic science departments were particularly likely (84%) to report negative consequences when blowing the whistle. Those in clinical departments (50%) were no more

TABLE 9

**Number and Percent of Whistleblowers Who Reported Experiencing
Any Negative Actions by Whistleblower Characteristics**

Whistleblower Characteristic	Total	Negative Actions			
		Experienced		Not Experienced	
		N	%	N	%
Total Number of Complainants	68	47	69.1	21	30.9
Degree Held					
Doctorate (Ph.D., D.Sc.)	45	33	73.3	12	26.7
Doctor (MD/Ph.D, M.D., M.B., or D.D.S.)	17	10	58.8	7	41.2
Other	6	4	66.7	2	33.3
Work Setting					
Academia	53	39	73.6	14	26.4
Government	10	5	50.0	5	50.0
Other	5	3	60.0	2	40.0
Type of Academic Department					
Basic Science	31	26	83.9	5	16.1
Clinical	12	6	50.0	6	50.0
Other	10	7	70.0	3	30.0
Non-Academic Setting	15	8	53.3	7	46.7
Academic Rank					
Professor	24	17	70.8	7	29.2
Associate Professor	10	7	70.0	3	30.0
Assistant Professor	8	7	87.5	1	12.5
Instructor/Lecturer	1	1	100.0	0	0.0
Graduate Student/Post-Doc	6	5	83.3	1	16.7
No Academic Rank	19	10	52.6	9	47.4
Continuity/Security of Position					
Tenured	38	27	71.0	11	29.0
Nontenured	30	20	66.7	10	33.3
Source of Funds					
University Funds Only	17	13	76.5	4	23.5
University/Extramural Funds	26	17	65.4	9	34.6
Extramural Funds Only	11	9	81.8	2	18.2
Unpaid/Don't Know/Inapplicable	14	8	57.1	6	2.9

TABLE 9 (Cont'd)

**Number and Percent of Whistleblowers Who Reported Experiencing
Any Negative Actions by Whistleblower Characteristics**

Whistleblower Characteristic	Total	Negative Actions			
		Experienced		Not Experienced	
		N	%	N	%
Full/Part-time					
Full	63	42	66.7	21	33.3
Part	3	3	100.0	0	0.0
Student Only	2	2	100.0	0	0.0
Institutional Position					
Senior Administrator	2	1	50.0	1	50.0
Department Chair/Head	5	3	60.0	2	40.0
Division Head	2	1	50.0	1	50.0
Lab Chief	1	0	0.0	1	100.0
Section Chief	2	0	0.0	2	100.0
None	56	42	75.0	14	25.0
Relationship to Accused					
Superior/Supervisor	25	19	76.0	6	24.0
Collaborator/Colleague	12	10	83.3	2	16.7
Student/Subordinate	12	11	83.3	2	16.7
Outside Researcher/Reviewer	17	8	47.1	9	52.9
Other	2	0	0.0	2	100.0

likely than non-academics (53%) to suffer negative consequences of whistleblowing.

- **Academic Rank.** Although academics, in general, are more likely to report negative consequences than non-academics, higher ranking academics (full and associate professors) are less likely (71% and 70%, respectively) than their less senior colleagues (assistant professors [88%], instructors or lecturers [100%], and post-doctoral or other graduate students [83%]) to experience such adverse actions.

- **Tenure.** There was little difference overall between those with (71%) and without (67%) tenure in reported experience of negative consequences. If anything, the results suggest that those with tenure suffer adverse consequences slightly more often than their untenured colleagues. This may be because the latter category includes both lower level academics (who we already saw are more subject to adverse consequences) and non-academics (who we already saw were less subject to negative actions).
- **Source of Funding.** Those whose salary is supported exclusively by extramural funds (82%) are the most vulnerable to experiencing negative outcomes. Those whose salaries are exclusively supported by university funds (77%) also report more frequent experience of negative consequences than those who have mixed funding (65%) or are unfunded (57%).
- **Work Status.** Since nearly all complainants were employed full time (93%) at the time of their allegations, it is difficult to make much of the findings on this topic. However, every one of the five whistleblowers who worked part-time or were students at the time of the allegations reported experiencing negative outcomes.
- **Institutional Position.** Fewer than one-in-five complainants (18%) held a position of institutional authority at the time of the allegation. The number in any particular position is so small that the differences are uninterpretable. However, combining the top 5 categories suggests that holding any institutional position of authority appears to confer some protection against the negative consequences of blowing the whistle -- 58% of institutional officials but only 25% of other complainants reported experiencing no negative consequences of blowing the whistle.
- **Relationship to the Accused.**¹⁰ There is relatively little difference in the proportion of complainants who report adverse consequences of whistleblowing between those who were superiors/supervisors of the accused (76%) those who were colleagues/collaborators of the accused (83%), and those who were

¹⁰ Whistleblowers in our survey could indicate more than one relationship to the accused (e.g., both supervisor and collaborator). However, we used the data to create unique categories for each individual. Those who were supervisors/superiors we categorized as such regardless of other relationships they might hold with the accused. The remaining categories were assigned in descending order.

subordinates/students of the accused (83%). However, those who are located at another institution, outside researchers and reviewers, experience negative consequences in a much smaller proportion of the cases in which they allege misconduct (47%).

c. Consequences Experienced in Different Situations

In the above analyses, we have shown that what happened to a whistleblower appears to have something to do with who takes action against them, when they take that action, and what sort of person the whistleblower is. Another set of factors likely to influence the outcome of whistleblowing is the nature of the whistleblowing event itself and how the allegations were handled.

How do the consequences experienced by whistleblowers vary with differences in the whistleblowing situation? Table 10 examines the relationship between the characteristics of the whistleblowing incidents experienced by complainants and whether or not they experienced negative consequences as a result of blowing the whistle. We looked at a number of characteristics of such incidents, including:

- **Case Outcome.** Complainants whose allegations were partially but not fully confirmed were the most likely (79%) to experience negative consequences. Those whose allegations were totally unsupported were next most likely (74%) to report adverse consequences followed by those whose allegations were fully supported (68%). Complainants least likely to be adversely affected were those who were unaware of the outcome of their allegations (50%). It is also interesting to note that the number of cases in which respondents report that all

TABLE 10

Number and Percent of Whistleblowers Who Reported Experiencing Any Negative Actions by Case Characteristics

Characteristics of the Incident	Total	Negative Actions			
		Experienced		Not Experienced	
		N	%	N	%
Total Number of Whistleblowers	68	47	69.1	21	30.9
Outcome of Case					
No Allegations Supported	23	17	73.9	6	26.1
Some Allegations Supported	14	11	78.6	3	21.4
All Allegations Supported	19	13	68.4	6	31.6
Don't Know	12	6	50.0	6	50.0
Type of Misconduct Alleged					
Fabrication	20	16	80.0	4	20.0
Falsification	16	10	62.5	6	37.5
Plagiarism	38	17	71.0	11	29.0
More Than One	16	12	75.0	4	25.0
Case Publicity					
Publicized	15	13	86.7	2	13.3
Not Publicized/No Answer	48	32	66.7	16	33.3
Don't Know	5	2	40.0	3	60.0
To Whom Allegation Made					
Dean of College/School/University	24	22	91.7	2	8.3
Department Head/Chair	27	25	92.6	2	7.4
Institutional Misconduct Official	17	16	94.1	1	5.9
Laboratory Chief/Director	9	5	55.6	4	44.4
Principal Investigator	6	4	66.7	2	33.3
ORI/OSI	31	24	77.4	7	22.6
Funding Agency	14	12	85.7	2	14.3
Executive Director of Review Group	14	8	57.1	6	42.9
Journal Editor	8	6	75.0	2	25.0

TABLE 10 (Cont'd)

Number and Percent of Whistleblowers Who Reported Experiencing Any Negative Actions by Case Characteristics

Characteristics of the Incident	Total	Negative Actions			
		Experienced		Not Experienced	
		N	%	N	%
Allegation Reported					
Inside Institution Only	21	9	42.9	12	57.1
Outside Institution Only	20	13	65.0	7	35.0
Inside and Outside Institution	26	24	92.3	2	7.7
None/Other	1	1	100.0	0	0.0
Number of Different Types of Peoples Reported Allegation To					
One	31	15	48.6	16	51.6
Two	13	9	69.2	4	30.8
Three	11	11	100.0	0	0.0
Four or More	13	12	92.3	1	7.7
From Whom Received Support					
University Official	16	11	68.7	5	31.3
Other Administrator	7	4	57.1	3	42.9
Colleagues	21	16	76.2	5	23.8
Students/Fellows	7	5	71.4	2	28.6
Family/Friends	18	14	77.8	4	22.2
Federal Officials	11	8	72.7	3	27.3
Other	5	4	80.0	1	20.0
No One	12	6	50.0	6	50.0
Number of Different Types of People Providing Support					
Item Left Blank	19	14	73.7	5	26.3
None	12	6	50.0	6	50.0
One	12	9	75.0	3	25.0
Two	8	6	75.0	2	25.0
Three or More	17	12	70.6	5	29.4

TABLE 10 (Cont'd)

Number and Percent of Whistleblowers Who Reported Experiencing Any Negative Actions by Case Characteristics

Characteristics of the Incident	Total	Negative Actions			
		Experienced		Not Experienced	
		N	%	N	%
Response to Allegation					
Inquiry Only	36	26	72.2	10	27.8
Inquiry and Investigation	8	5	62.5	3	37.5
Investigation Only	6	6	100.0	0	0.0
None/Other/Don't Know	18	10	55.6	8	44.4

allegations were supported (19) is almost identical to the reported number of cases of misconduct in ORI's files (20). An additional 14 complainants reported that some allegations were supported, but since they may have made allegations other than research misconduct, it is unclear what this discrepancy means.

- **Type of Misconduct Alleged.**¹¹ Alleging fabrication is more likely (80%) to result in negative consequences than alleging plagiarism (71%), which, in turn, is more likely to result in negative outcomes than alleging falsification (63%). Alleging more than one type of misconduct results in negative consequences almost as often (75%) as alleging fabrication.
- **Case Publicity.** Complainants in cases that receive publicity are more likely (87%) than their colleagues whose cases were not publicized (67%) to report negative consequences of blowing the whistle. Fortunately, fewer than one-fourth of cases (22%) were reported to have been publicized. Again, not knowing

¹¹ Whistleblowers can and often do make more than one allegation. While the numbers in each row represent unique individuals, the numbers in different rows are not independent. The final category, multiple allegations, is one attempt to capture this overlaps.

whether or not the case was publicized was associated with lower risk of adverse outcomes (40%).

- **To Whom Allegation Was Made.**¹² Consistent with the previous results on persons responsible for negative actions, those who reported their allegations to university officials -- deans (92%), department heads (93%), or even institutional misconduct officials (94%) -- were the most likely to experience adverse consequences. Reporting allegations to a funding agency (86%), ORI/OSI (77%), or a journal editor (75%) also resulted in above average levels of negative consequences. Interestingly, those who reported their suspicions to a laboratory director were least likely (56%) to suffer negative outcomes.
- **Internal vs. External Reporting.** We recoded the information from this same question to separate those who reported to someone within their institution from those who reported to someone outside their institution. Some people reported to both and one reported only to a person whose location could not be determined from the response. Those who reported the allegation outside the institution, tended to experience negative actions more often (65%) than those who reported the allegation only within the institution (45%). Those who reported it both outside and within are particularly vulnerable to adverse consequences (92%).
- **Number of People to Whom Allegation Was Reported.** Looking at these same data yet another way, we determined the number of different types of people to whom an allegation was made. The more different types of people complainants report their allegations to, the higher their chance of suffering adverse consequences. Thirty-one whistleblowers (46%) reported their allegations to only a single type of person and almost half of such whistleblowers reported having experienced a negative consequence. Nine of 13 complainants who reported to two types of people (69%) indicated that they had experienced negative consequences. All 11 of those who made allegations to three types of people and 12 of 13 who reported their allegation to four or more types of people (92%) reported an adverse outcome of their whistleblowing.

¹² Whistleblowers can and often do make allegations to more than one type of individual. While the numbers in each row represent unique individuals, the numbers in different rows are not independent.

- **From Whom Received Support/Encouragement.** Interestingly, when complainants receive support and encouragement from university officials or other administrative officials, they experience fewer negative consequences less often (69% for university officials and 57% for other administrators) than when they receive support elsewhere (i.e., 71% for students/fellows, 73% for federal officials, 76% for colleagues, 78% for family/friends, and 80% for other). To some extent, this is the flip side of the coin from earlier results and suggests that a key factor in the outcomes whistleblowers experience is whether they receive support or opposition from those with authority in their institution. Those who report that they received no support or encouragement also reported lowest frequency of negative consequences (50%).
- **Number of People Providing Support/Encouragement.** Thirty-seven whistleblowers (54%) reported receiving support from at least one person. Twelve whistleblowers (18%) reported receiving support from no one, and an additional 19 whistleblowers (28%) left this item blank, suggesting that the overall proportion of whistleblowers who received no support or encouragement is likely substantially larger than 18%. The number of different types of people who provide support to whistleblowers seems to make very little difference in the consequences whistleblowers experience -- except, as before, people who explicitly reported having received no support from anyone experienced fewer adverse actions (50% versus 71-75% for all other categories).
- **How Far Case Pursued.** The six whistleblowers (9%) who reported that their allegations were considered only at an investigation without an initial inquiry were most likely to experience negative consequences (100%). Those whose allegations were considered only at an inquiry (36 whistleblowers [53%]) also reported higher than average levels of negative consequences of blowing the whistle (72%). Those whose allegations were heard in both forums (8 whistleblowers [12%]) reported fewer negative consequences still (63%) and those who reported some other way in which their allegations were handled (10 whistleblowers [15%]) also reported the fewest negative consequences (56%). The overall figures on self-reports of the response to the allegation can be compared to the initial information in ORI's file. The number reporting "inquiry only" in Table 10 (36) is quite consistent with the ORI figure for "inquiry" in Table 1 (38). However, the sum of those reporting an

investigation with or without an inquiry in Table 10 (14) is only about half the number of investigations noted in ORI files (29). This finding is difficult to explain.¹³

d. Overall Impact of Whistleblowing on the Whistleblower

In addition to asking whistleblowers about the specific negative consequences they experienced as a result of whistleblowing, we also asked them to rate the impact of their whistleblowing on their career overall (item 31) and on specific aspects of their careers (item 28), professional activities (item 30), and personal lives (item 29). The analyses in this section look first at their overall ratings, then at the individual dimensions that whistleblowers rated, and finally at the relationship between the specific consequences whistleblowers experienced and summary ratings of the impact of their whistleblowing in these three domains -- career, professional activities, and personal life.

What was the overall impact of whistleblowing on claimants' careers? The survey included an item (item 31) which asked complainants to rate the overall effect of whistleblowing on their careers. Table 11 provides an overview of this information for all whistleblowers in our survey, for those who experienced or did not experience a negative action, and among the former, those who experienced severe versus less severe negative consequences:¹⁴

TABLE 11

Whistleblowers' Assessments of Overall Effect of Whistleblowing on Career by Whether

¹³ Possibilities suggested by ORI are: (1) that whistleblowers may not be clear on this distinction or (2) that ORI sometimes classifies an institutional inquiry as an investigation if the inquiry appears to be sufficiently thorough to meet ORI's definition of an investigation.

¹⁴ The survey question we asked gave whistleblowers the opportunity to respond to this items by choosing one of eight items very, somewhat, or slightly positive, very, somewhat, or slightly negative, no effect, and uncertain. For several reasons (small sample size, previous research with similar scales, fact that other career, professional activities, and person life scales have fewer points), we collapsed categories for reporting into positive (very and somewhat positive), negative (very and somewhat negative), and neutral (no effect, uncertain, slightly positive or negative).

Negative Actions Experienced	Total	Overall Impact on Career					
		Negative		Neutral/No Effect/Uncertain		Positive	
		N	%	N	%	N	%
All Whistleblowers	68	24	35.3	42	61.8	2	2.0
Negative Actions Experienced							
No	21	0	0.0	21	100.0	0	0.0
Yes	47	24	51.1	21	44.7	2	4.3
Severity of Negative Action							
Severe Negative Action	17	13	76.5	2	11.8	2	11.8
Less Severe Negative Action	27	11	40.7	16	59.3	0	0.0
Unlisted Negative Action Only	3	0	0.0	3	100.0	0	0.0

- **Whistleblowers Overall.** Among all whistleblowers, 62% reported that the impact on their career was neutral, 35% reported a negative impact, and only 2% reported a positive impact of blowing the whistle on their careers.
- **Whistleblowers With/Without Negative Consequences.** The pattern is very different when a distinction is made among the 21 whistleblowers who reported no negative consequences of their whistleblowing and the 47 whistleblowers who reported some type of negative impact. Every one of the former rated the impact as neutral, no effect, or uncertain. However, among those who experiences a negative outcome, 51% felt the impact was negative, 45% felt it was neutral, and 4% felt that blowing the whistle had a positive impact on their careers.
- **Whistleblowers With Severe Versus Moderate Negative Consequences.** When those who experienced negative consequences are further differentiated into those who suffered very serious consequences and those who suffer lesser consequences, the patterns differ again. Those who experienced serious negative consequences (loss of position or denial of advancement) were far more likely to

rate the overall impact on their career as negative (77%) than to rate it as neutral (12%) or positive (12%). Whereas, those who reported experiencing the less serious adverse outcomes (loss of research resources or hassles, pressures, or delays), were more likely to rate their experience as neutral (59%) than negative (41%), with none of these whistleblowers rating their experience as positive.

What impact did blowing the whistle have on various aspects of complainants' careers? Table 12 presents information on complainants' self-assessments of the impact of whistleblowing on various aspects of their careers. The overall pattern reflected in this table is that, on every dimension, the most selected option is the no effect/uncertain choice. The proportion choosing this neutral option varied from 53% for the impact on the whistleblowers' reputations, to 84% for its impact on their consulting activities. Most of those who did not choose the middle option rated the impact on these career-oriented dimensions as negative. The proportion giving negative ratings ranged from highs for reputation (32%), promotions, field of research, and income (31% each), job mobility, and collaborations (30% each), to lows for consulting (16%), tenure (17%), and networking (24%). With the exception of two dimensions, no more than one whistleblower indicated that their whistleblowing had a positive impact on any career dimension. The exceptions were that 6% felt that the incident had a positive impact on their field of research and 15% felt it enhanced their reputation. In sum, relatively few people who blew the whistle reported any impact on each of the dimensions we looked at. However, when they did report an impact, it was almost invariably negative. The only slight exception to this pattern is for "reputation," which exhibits the most polarization of complainant judgement. However, more than twice as many people reported their reputations hurt as reported them helped by their involvement in the whistleblowing incident.

TABLE 12

Whistleblowers' Assessments of Impact of Whistleblowing on Career

Effect Incident Had on Career	Negative		No Effect/ Uncertain		Positive	
	N	%	N	%	N	%
	Reputation	22	32.4	36	52.9	10
Income	21	30.9	47	69.1	0	0.0
Promotions	21	30.9	46	67.6	1	1.5
Tenure	12	17.6	55	80.9	1	1.5
Job Mobility	20	29.4	47	69.1	1	1.5
Consulting	11	16.2	57	83.8	0	0.0
Collaborations	20	29.4	47	69.1	1	1.5
Networking	16	23.5	51	75.0	1	1.5
Field of Research	21	30.9	43	63.2	4	5.9

The same pattern exhibited in Table 13 is replicated in Table 15, which compares a summary of self-ratings of the impact of whistleblowing on participation in various professional activities with reports of specific negative consequences experienced.

Table 13 provides an overview of the relationship between a summary of complainants' self-assessments of the impact of whistleblowing on various aspects of their careers, by

TABLE 13

Whistleblowers' Summary Assessments of Impact of Whistleblowing on Career by Whether Negative Actions Were Experienced

Negative Actions Experienced	Total	Summary of Impact on Career Dimensions							
		Mostly Negative		Mixed		Mostly Neutral		Mostly Positive	
		N	%	N	%	N	%	N	%
All Whistleblowers	68	17	25.0	9	13.2	42	61.8	0	0.0
Negative Action Experienced									
No	21	0	0.0	1	4.8	20		0	0.0
Yes	47	17	36.2	8	17.0	22	46.8	0	0.0
Severity of Negative Action									
Severe Negative Action	17	9	52.9	5	29.4	3		0	0.0
Less Severe Negative Action	27	8	29.6	3	11.1	16	59.3	0	0.0
Unlisted Negative Action Only	3	0	0.0	0	0.0	3	100.0	0	0.0

whether or not they experienced a negative consequence, and for those that did, whether the negative consequence was severe or moderate:¹⁵

- Whistleblowers Overall.** Over all whistleblowers, about three-in-five (62%) rated the impact on their careers as "mostly neutral," one-quarter (25%) rated the impact "mostly negative," and the rest (13%) rated the impact as mixed negative and neutral. Not a single whistleblower reported that their whistleblowing had a positive impact on their careers.

¹⁵ In this and several other tables, complainants are classified as mostly negative, neutral, or positive or as mixed based on their patterns of response to the individual items in the domain. To be labeled "mostly" something, the number of ratings of that type must exceed the number of ratings of all other types combined by three. For example, with nine items assessing judgements of "career," at least 6 would have to be rated "negative" for the complainant to be labeled "mostly negative." Mixed ratings are any that do not fit the "mostly" patterns -- in general, the mixed patterns involved some balance of negative and neutral ratings and is, therefore, shown between these two "mostly" categories in these tables. Also, in this table, we use the severe and moderate negative consequences distinction described earlier.

- **Whistleblowers With/Without Negative Consequences.** As in Table 11, the pattern shifts when we distinguish those who experienced no negative actions and those who experienced a negative consequence. The vast majority of those who reported experiencing no negative actions (95%), reported that blowing the whistle had little impact on their careers and the remainder (5%) rated its impact as mixed. Those who experienced a negative reaction were more divided in their opinions. Nearly half (47%) rated the impact as mostly neutral but more than one-third (36%) rated the impact as mostly negative, with the remainder (17%) rating the impact as mixed.
- **Whistleblowers With Severe Versus Moderate Negative Consequences.** Again, the pattern is quite different for those who experienced severe versus moderate consequences of their whistleblowing. More than half of those who experienced the more severe negative consequences of whistleblowing, reported that the impact of their whistleblowing was mostly negative (53%) and a substantial number of the rest (29%) reported mixed impacts. The remaining 18% reported the impact as mostly neutral. For those reporting only moderate negative consequences, nearly three-in-five (59%) reported the impact was mostly neutral, with about half this number (30%) reporting the impact mostly negative. Just 11% reported the impact as mixed.

What impact did blowing the whistle have on various aspects of complainants' participation in professional activities? Table 14 presents information on complainants' self-assessments of the impact of whistleblowing on various aspects of their participation in professional activities. The overall pattern reflected in this table is that, on every dimension, the most selected option is the no effect/uncertain choice. The proportion choosing this neutral option varied from 62% for the impact on whistleblowers' research activities to 80% for its impact on both editorial posts and teaching. Most of those who did not choose the middle option rated the impact on their various professional activities as negative. The proportion giving negative ratings ranged from highs for research (34%) and collegial relations (31%), to a low for teaching (19%). All other categories were judged to have had a negative impact by 20-25% of whistleblowers. Not more than three whistleblowers (4%) rated the

TABLE 14

**Whistleblowers' Assessments of Impact of Whistleblowing on
Participation in Professional Activities**

Effect Incident Had on Professional Activities	Negative		No Effect/ Uncertain		Positive	
	N	%	N	%	N	%
Present Papers	15	22.1	51	75.0	2	2.9
Chair Sessions	17	25.0	50	73.5	1	1.5
Organize Sessions	14	20.6	53	77.9	1	1.5
Review Papers	15	22.1	52	76.5	1	1.5
Elected Offices	15	22.1	53	77.9	0	0.0
Committee Membership	17	25.0	51	75.0	0	0.0
Editorial Posts	14	20.6	54	79.4	0	0.0
Teaching	13	19.1	54	79.4	1	1.5
Research	23	33.8	42	61.8	3	4.4
Collegial Relations	21	30.9	44	64.7	3	4.4

impact of whistleblowing as positive on any of these dimensions. In sum, again, relatively few people who blew the whistle reported any impact on each of these dimensions. However, when they did report an impact, it was almost invariably negative.

TABLE 15

Whistleblowers' Summary Assessments of Impact of Whistleblowing on Professional Activities By Whether Negative Actions Were Experienced

Negative Actions Experienced	Total	Summary of Impact on Professional Activity Dimensions							
		Mostly Negative		Mixed		Mostly Neutral		Mostly Positive	
		N	%	N	%	N	%	N	%
All Complainants	68	19	27.9	5	7.4	44	64.7	0	0.0
Negative Actions Experienced									
No	21	0	0.0	0	0.0	21	100.0	0	0.0
Yes	47	19	40.4	5	10.6	23	48.9	0	0.0
Severity of Negative Action									
Severe Negative Action	17	10	58.8	2	11.8	5	29.4	0	0.0
Less Severe Negative Action	27	9	33.3	2	7.4	16	59.3	0	0.0
Unlisted Negative Action Only	3	0	0.0	1	33.3	2	66.7	0	0.0

The same pattern exhibited in Table 13 is replicated in Table 15, which compares a summary of self-ratings of the impact of whistleblowing on participation in various professional activities with reports of specific negative consequences experienced.

- **Whistleblowers Overall.** Among all whistleblowers, nearly two-thirds (65%) rated the impact on their professional activities as "mostly neutral," just over one-quarter (28%) rated the impact "mostly negative," and the rest (7%) rated the impact as mixed negative and neutral. Not a single whistleblower reported that their whistleblowing had a positive impact on their professional activities.
- **Whistleblowers With/Without Negative Consequences.** As in earlier tables, the pattern shifts when we distinguish those who experienced no negative actions and those who experienced a negative consequence. Every whistleblower who reported experiencing no negative actions (100%), reported that blowing the whistle had no impact on their professional activities. Those who experienced a negative reaction were more divided in their opinions. Nearly half (49%) rated the

impact as mostly neutral but nearly as many (40%) rated the impact as mostly negative, with the remainder (11%) rating the impact as mixed.

- **Whistleblowers With Severe Versus Moderate Negative Consequences.**

Again, the pattern is quite different for those who experienced severe versus moderate consequences of their whistleblowing. More than half of those who experienced the more severe negative consequences of whistleblowing, reported that the impact of their whistleblowing was mostly negative (59%) but a substantial number of the rest (29%) reported mostly neutral impacts. The remaining 12% reported the mixed impacts. For those reporting only moderate negative consequences, nearly three-in-five (59%) reported the impact was mostly neutral, with another one-third (33%) reporting the impact mostly negative. Just 7% reported the impact as mixed.

What impact did blowing the whistle have on various aspects of complainants' personal lives? Table 16 presents information on complainants' self-assessments of the impact of whistleblowing on various aspects of their personal lives. The overall pattern reflected in this table is that, on nearly every dimension, the most selected option is the no effect/uncertain choice. The proportion choosing this neutral option varied from 43% for the impact on whistleblowers' mental health and 53% for the impact on whistleblowers' self-esteem to 81% for its impact on their children and 72% for its impact on their family. With the exception of two dimensions -- self-esteem and self-identity -- most of those who did not choose the middle option rated the impact on the various aspects of their personal lives as negative. The proportion giving negative ratings ranged from highs for mental health (52%) and finances (34%), to lows for children (15%) and self-identity (18%). All other categories were judged to have had a negative impact by 22-28% of whistleblowers. More whistleblowers reported positive impacts on areas of their personal life than reported such impacts on their careers or professional activities. On the two dimensions noted -- self-esteem and self-identity -- slightly more whistleblowers rated the impact of their whistleblowing as positive than rated it as negative. One-fourth (25%) of whistleblowers reported that the impact on their self-esteem was positive and just over one-fifth of whistleblowers reported a positive impact on their self-identity. Small but positive impacts were also reported on their spouse/partner (7%), marriage

TABLE 16
Whistleblowers' Assessments of Impact of Whistleblowing on
Personal Life

Effect Incident Had on Personal Life	Negative		No Effect/ Uncertain		Positive	
	N	%	N	%	N	%
	Physical Health	19	27.9	47	69.1	2
Mental Health	35	51.5	29	42.6	4	5.9
Finances	23	33.8	44	64.7	1	1.5
Self-identify	12	17.6	42	61.8	14	20.6
Self-esteem	15	22.1	36	52.9	17	25.0
Marriage	17	25.0	47	69.1	4	5.9
Family	16	23.5	49	72.1	3	4.4
Spouse/Partner	19	27.9	44	64.7	5	4.4
Children	10	14.7	55	80.9	3	4.4

and mental health (6%), and family and children (4%). In sum, relatively few people who blew the whistle reported any impact on each of these dimensions. However, when they did report an impact, it was more often negative than positive, with the exception of self-esteem and self-identity, where the proportion reporting positive impacts equaled the proportion reporting negative impacts.

Table 17 compares a summary of self-assessments by complainants of the impact of whistleblowing on various aspects of their personal lives and the specific negative consequences they reported. The pattern in this table diverges somewhat from those and 15, in Tables 13 which looked at impacts on career and professional activities, respectively.

TABLE 17

Whistleblowers' Assessments of Impact of Whistleblowing on Personal Life by Whether Negative Actions Were Experienced

Negative Actions Experienced	Total	Summary of Impact on Personal Life Dimensions							
		Mostly Negative		Mixed		Mostly Neutral		Mostly Positive	
		N	%	N	%	N	%	N	%
All Complainants	68	22	32.4	3	4.4	40	58.8	3	4.4
Negative Actions Experienced		1							
No	21	21	4.8	0	0.0	20	95.2	0	0.0
Yes	47		44.7	3	6.4	20	42.6	3	6.4
Severity of Negative Action									
Severe Negative Action	17	11	64.7	1	5.9	2	11.8	3	17.6
Less Severe Negative Action	27	10	37.0	2	7.4	15	55.6	0	0.0
Unlisted Negative Action Only	3	0	0.0	1	33.3	12	30.0	3	7.5

- Whistleblowers Overall.** Among all whistleblowers, nearly three-in-five (59%) rated the impact on their personal lives as "mostly neutral," and nearly one-third (33%) rated the impact "mostly negative," and the rest were equally split between "mixed" (4%) and "mostly positive" (4%). Unlike the other two areas, there were a few individuals (3 whistleblowers [4%]) who reported that their whistleblowing had a positive impact on their personal lives.
- Whistleblowers With/Without Negative Consequences.** As in earlier tables, the pattern shifts when we distinguish those who experienced no negative actions and those who experienced a negative consequence. All but one whistleblower who reported experiencing no negative actions (95%), reported that blowing the whistle had no impact on their personal lives, that one reported a negative impact. Those who experienced a negative reaction were more divided in their opinions. About an equal number rated the impact mostly neutral as rated it mostly negative, 43% and 45%, respectively. The remainder were equally split (6% each) between the mixed and positive categories.

- Whistleblowers With Severe Versus Moderate Negative Consequences.**
 Except for the fact that a few of those with really severe outcomes reported that their whistleblowing had a positive impact on their personal lives, the pattern is quite similar to the one we have seen in several earlier tables. Nearly two-thirds of those who experienced the more severe negative consequences of whistleblowing, reported that the impact of their whistleblowing on their personal lives was mostly negative (65%). However, the next most common rating was "mostly positive," which was reported by 18% of whistleblowers. In addition, 12% reported mostly neutral and 6% mixed impacts of their whistleblowing. For those reporting only moderate negative consequences, more than half were mostly neutral in their judgements of its impact on their personal lives (56%) and more than one-third (37%) reported the impact was mostly negative, with the remaining whistleblowers (7%) reporting mixed impacts and none reporting mostly positive results.

What impact has blowing the whistle had on complainants' current employment status? A somewhat more indirect indicator of the impact of whistleblowing on complainants' careers is to look at their current employment situation. Table 18 reports the number and percent of complainants currently employed or unemployed by whether or not they experienced any negative impacts.¹⁶ Regardless of whether or not they experienced a negative action, the vast majority of complainants are currently employed. However, the proportion of unemployed whistleblowers who experienced negative consequences is 3.5 times as large as the proportion of unemployed whistleblowers who experienced no negative consequences of their whistleblowing.

Table 18

Number and Percent of Whistleblowers Currently Employed by Whether Negative Actions Were Experienced

Negative Actions	Total	Current Employment	
		Employed	Unemployed

¹⁶ The survey contained several additional items exploring the nature of current employment. Unfortunately, the skip pattern in the survey caused most complainants not to answer these questions. So, this is the only useable item about current employment.

		N	%	N	%
All Whistleblowers	68	59	86.8	9	13.2
Not Experienced	21	20	95.2	1	4.8
Experienced	47	39	83.0	8	17.0

Is there a stigma associated with whistleblowing? Table 19 reports on complainants' beliefs about whether or not blowing the whistle stigmatizes the whistleblower.

- Whistleblowers Overall.** Overall, nearly three-fourths of complainants believe that it definitely (56%) or probably (19%) stigmatizes the whistleblower. Only about one-sixth of complainants (18%) believe that it is not stigmatizing.
- Whistleblowers With/Without Negative Consequences.** The pattern of beliefs is distinctly different for those who experienced negative consequences and those who did not. Among those who experienced no adverse outcomes, one-third believe there is a stigma attached to whistleblowing (33%) and nearly one-fourth (24%) think there probably is such a stigma, while 29% believe there is no stigma attached to whistleblowing and a few (14%) are uncertain. For those who experienced a negative action, two-thirds (66%) believe there is definitely a stigma and an additional 17% believe there is probably a stigma associated with

TABLE 19

Whistleblowers' Perceptions of Stigma Attached to Whistleblowing by Whether Negative

Negative Actions	Total	Stigma Attached to Whistleblowing							
		No		Probably		Yes		Uncertain	
		N	%	N	%	N	%	N	%

All Whistleblowers	68	12	17.6	13	19.1	38	55.9	5	7.4
Negative Actions Experienced									
No	21	6	28.6	5	23.8	7	33.3	3	14.3
Yes	47	6	12.8	8	17.0	31	66.0	2	4.3
Severity of Negative Action									
Severe Negative Action	17	0		2	11.7	14	82.4	1	5.9
Less Severe Negative Action	27	5	0.0	6	22.2	15	55.6	1	3.7
Unlisted Negative Actions Only	3	1	18.5	0		2	66.7	0	0.0
			33.3		0.0				

those who blow the whistle. Only 13% of whistleblowers who have had a negative experience believe that whistleblowing is not stigmatizing and the remainder (4%) are uncertain.

- Whistleblowers With Severe Versus Moderate Negative Consequences.** The patterns also differ by whether or not the negative consequences experienced were severe. Eighty-two percent of whistleblowers who suffered serious consequences but only 56% of those who suffered lesser consequences believe that whistleblowing is definitely stigmatizing. An additional 12% of those with severe consequences and 22% of those with moderate consequences believe that there is a stigma associated with blowing the whistle. One whistleblower in each severity category reported that they were uncertain about this issue. While 19% of whistleblowers who suffered only the less severe consequences reported that whistleblowing was not stigmatizing, not a single whistleblower who suffered a severe outcome reported this conclusion.

Would complainant blow the whistle again? One of the most telling sets of findings comes from a question that asked if whistleblowers would blow the whistle again. Table 20 contains these results:

- Whistleblowers Overall.** Overall, two-thirds of all whistleblowers (68%) say they would blow the whistle again and an additional 12% say they would probably do it.

The remainder are split equally between those who would not do it again (10%) and those who are uncertain (10%).

- Whistleblowers With/Without Negative Consequences.** Of those who experienced no negative actions, 86% percent would definitely blow the whistle again and an additional 5 percent would probably do it. The remainder (10%) are uncertain if they would do it or not, but there was not a single person in this group who would not blow the whistle again. This contrasts substantially with the views of whistleblowers who suffered one or more negative actions. Still, considerably more than half such complainants (60%) said they would definitely blow the whistle again and another 15% said that they would probably do it. However, in this case, the same number of complainants (15%) said they would not blow the whistle again, while the remaining 11% were uncertain.
- Whistleblowers With Severe Versus Moderate Negative Consequences.** Whistleblowers who experienced severe negative consequences are more likely than their peers who suffered only moderate negative consequences to report that they would not blow the whistle again (18% versus 11%) and that they were uncertain about whether or not they would do it again (24% versus none). Conversely, those who suffered less serious consequences were more likely to say they would definitely or probably blow the whistle again (67% and 22% versus 53% and 6%).

TABLE 20

Whistleblowers' Willingness to Blow the Whistle Again by Whether Negative Actions Were Experienced

Negative Actions	Total	Willingness to Blow Whistle Again							
		No		Probably		Yes		Uncertain	
		N	%	N	%	N	%	N	%

All Whistleblowers	68	7	10.3	8	11.8	46	67.6	7	10.3
Negative Actions Experienced									
No	21	0	0.0	1	4.8	18	85.7	2	9.5
Yes	47	7	14.9	7	14.9	28	59.6	5	10.6
Severity of Negative Action									
Severe Negative Action	17	3	17.6	1	5.9	9	52.9	4	23.5
Less Severe Negative Action	27	3	11.1	6	22.2	18	66.7	0	0.0
Unlisted Negative Action Only	3	1	33.3	0	0.0	1	33.3	1	33.3

5. Conclusions and Recommendations

The evidence presented in this report provides a clear picture of what the impacts of whistleblowing have been on whistleblowers. The data also provide some insights into what types of whistleblowers are more or less likely to suffer adverse results for their efforts and the circumstances under which whistleblowers suffer or escape negative consequences. In this section of the report, we synthesize our findings and draw a series of conclusions about the impacts of whistleblowing on whistleblowers. Along the way, we offer some recommendations for ORI and Commission consideration in ameliorating the problems experienced by many who allege misconduct in science.

In all of this, it is important to keep in mind that the cases in our study, may represent only the tip of the iceberg. They are cases that were reported and that came to the attention of ORI (or its predecessor agencies). The data, therefore, provide no insights beyond these cases -- to cases reported but never pursued or noted in an official record or to instances of misconduct that were not reported (for fear of retaliation or for other reasons). Nevertheless, the patterns we observed, since they represent the first effort to explore the experiences of those who report misconduct in science cases, should prove very useful to ORI and the Commission as they continue their efforts to encourage whistleblowing and protect whistleblowers in such cases.

Extent to which whistleblowing resulted in negative outcomes. Our first set of conclusions concerns the extent to which complainants in closed cases experienced adverse consequences of their whistleblowing. Among the most significant findings in this area are the following:

- More than two-thirds of all whistleblowers reported experiencing at least one negative outcome as a direct result of their whistleblowing. Conversely, nearly one-third did not experience any adverse consequences of blowing the whistle.
- **Whistleblowers most likely to have experienced an adverse outcome** of their whistleblowing included:

* lower ranking faculty and students/fellows in basic science departments;

- * those who alleged misconduct by their colleagues.
- **Whistleblowers least likely to have experienced an adverse outcome** of their whistleblowing included:
 - * academics in clinical departments;
 - * workers in non-academic settings (particularly government workers);
 - * those with senior administrative positions in their institutions;
 - * those who allege misconduct by individuals at a different institution.
- **Blowing the whistle was most likely to have adverse outcomes** in situations in which:
 - * fabrication of data was alleged;
 - * the case received some publicity;
 - * the allegations were made to a senior administrative official or misconduct official of the institution or to the funding agency;
 - * the allegations were made both within and outside the institution;
 - * the allegations were made to many different types of individuals;
 - * the allegations were subjected to an investigation without recourse to an initial inquiry.
- **Blowing the whistle was least likely to result in adverse outcomes** in situations in which:
 - * the allegations were made only within the institution;
 - * the allegations were made to only a single individual.

In general, these findings suggest that *whistleblowers are most at risk of adverse outcomes in high profile cases in the basic sciences, especially when those cases gain notoriety outside the institution and the complainant is a lower ranking faculty member or student.*

Institutional officials and funding agencies appear to put the interests of their organization above those of the whistleblower. While this may well seem appropriate to such officials and agencies, because more than 70 percent of cases result in no findings of misconduct (according to ORI records), this pattern definitely suggests a failure in mechanisms to protect vulnerable

whistleblowers from retaliation. When whistleblowers turn to those closer at hand -- laboratory chiefs or center directors -- and keep their allegations low key, they tend to fare better. Though we did not examine it in this report, it would be interesting to know if the outcomes differ for cases handled in these different ways.

Types of negative outcomes experienced. Not surprisingly, the most common negative consequences of blowing the whistle are the least severe. When we consider each negative consequence whistleblowers could report independently, allowing each whistleblower to indicate as many consequences as they experienced, the most commonly experienced negative outcomes of whistleblowing included the following:¹⁷

- Two-in-five complainants reported that they were pressured to drop their allegations and almost the same number reported being subjected to counter allegations;
- One-in-four complainants reported that they were ostracized by colleagues;
- One-in-five complainants reported reductions in their level of research support;
- One-in-seven complainants reported being threatened with or actually facing a lawsuit; and
- Fewer than one-in-eight complainants reported each of the following more serious negative outcomes -- being fired, not being renewed, being denied a salary increase, losing travel funds, staff support, and desirable work assignments, being denied promotion (9%), and being denied tenure.

While this pattern holds for each item taken individually, our analysis indicated that, when complainants are classified according to the most serious of the consequences they suffered (and counted only once):¹⁸

¹⁷ These findings are drawn from Table 4, in which the unit reported is the outcome, not the complainant.

¹⁸ These findings are drawn from Table 7, in which the unit reported is the complainant.

- Fully one-in-four reported experiencing at least one serious negative consequence (including losing their position or otherwise being denied advancement), *as a result of their whistleblowing*.
- An additional two-in-five reported experiencing a less serious type of negative outcome (such as losing research support or opportunities or being hassled, pressured, or delayed) *as a result of their whistleblowing*.
- Fewer than one-in-three complainants reported no negative consequences as a result of whistleblowing.

Obviously, there is much room for improvement in protecting whistleblowers. Fortunately, there are some hints in our data about how to focus regulatory, monitoring, and enforcement efforts to improve this situation. For example, the evidence suggests that:

- The seeds of nearly every negative action taken against a whistleblower is sown during the active phase of the investigation. Very few whistleblowers suffer adverse consequences exclusively in the period after the case is closed.
- The most serious negative consequences -- loss of position, loss of research resources or opportunity, and denial of advancement -- simply do not happen without substantial involvement and direction by institutional officials.
- Lesser negative outcomes -- hassles, pressures, and delays -- also frequently come from institutional officials but are equally as likely to come from the accused.

These findings suggest that *for whistleblowers to suffer the most serious negative outcomes, institutional officials must play a significant role in dealing with their cases*. The accused can also cause problems for whistleblowers but generally *the consequences attributed to the accused tend to be more widespread but less severe than those attributed to institutional officials*.

Complainants' assessments of their whistleblowing experience. Complainants' views of the impact of their whistleblowing experiences on them were significantly affected by whether

or not they experienced any adverse outcomes and by what type of negative actions resulted from their whistleblowing. For example:

- **When whistleblowers did not experience a negative consequence** as a result of blowing the whistle, they almost invariably reported that their whistleblowing had "no effects" at all on their careers, professional activities, or personal lives. Only a third of them believed that whistleblowing was definitely stigmatizing and another quarter thought it probably was. More than 90 percent said they would definitely or probably blow the whistle again, with the rest undecided but with not a single person saying they would not blow the whistle again.
- **When whistleblowers experienced any negative consequence**, this pattern changed dramatically. A much smaller proportion (less than half) of these whistleblowers reported that their whistleblowing had "no effects" on their careers, professional activities, or personal lives, while a full third or more reported that their whistleblowing had a negative impact on all these dimensions. Two-thirds of these whistleblowers thought that blowing the whistle was definitely stigmatizing, more than four-fifths thought it definitely or probably was. Surprisingly, three-fourths of even these whistleblowers who suffered severe negative consequences said they would definitely or probably blow the whistle again. However, nearly one-in-six said they definitely would not. Not surprisingly, those who suffered the most severe consequences were even more definitive in stating that they would not blow the whistle again.

If the Public Health Service is to avoid these long-term negative impacts of whistleblowing, it is clear that it must intervene to prevent the specific negative consequences from occurring in the first place. The evidence from this study suggests that the place to focus interventions is in basic science departments and to focus on the role of institutional and departmental officials. It also suggests that potential whistleblowers be counseled regarding the likely harm they will suffer if they make their case a *cause celebre*, taking their concerns outside their institution or getting their case publicized by the media.

Bibliography

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U.S. General Accounting Office. **Whistleblower Protection: Reasons for Whistleblower Complainants' Dissatisfaction Need To Be Explored.** U.S. General Accounting Office, Washington, DC, November, 1993.

U.S. Merit Systems Protection Board. **Whistleblowing in the Federal Government: An Update.** U.S. Merit Systems Protection Board, Washington, DC, October, 1993.

APPENDIX A

Survey Instrument and Recruitment Letters

Dear Participant:

The Office of Research Integrity (ORI) has contracted with Research Triangle Institute (RTI) to conduct a survey to investigate the topic of misconduct in scientific research.

ORI, located in the Office of the Assistant Secretary for Health, is conducting the study because it develops the policies and procedures by which the Public Health Service handles reports of misconduct in science.

We are asking you to participate in this survey as a member of the scientific community who has some familiarity with this issue. The survey will be mailed in the next few months. To insure that the survey reaches you in a timely manner, we ask that you **confirm or correct the address information contained on the enclosed sheet and return the sheet in the prepaid envelope provided**. If you know you will be moving within the next few months but are uncertain of the location, please indicate this on the form and return it anyway.

Please be assured that the questionnaire will not ask any specific identifying information. Your participation will, of course, be voluntary. However, we sincerely hope you will participate in the project because its success will require the input of individuals, such as yourself. If you have any questions about the survey or any other aspect of this study, please feel free to call Mary-Anne Ardini at Research Triangle Institute, 1615 M St. NW, Washington, D.C. 20036, 1-800-334-8571 extension 2055.

Thank you very much for your help and we look forward to receiving the completed address form back from you.

Sincerely,

Lawrence J. Rhoades, Ph.D., Director
Division of Policy and Education
Office of Research Integrity

Jim Lubalin, Ph.D., Project Director
Research Triangle Institute

ADDRESS INFORMATION SHEET

Please **confirm** or **correct** the address information below. If the information is accurate, please check the line next to the work "Confirmed" under each address label. If NOT, write in the **correct information** in the space provided. If any information (i.e. phone number) is missing from the label, please write it in the space provided. Also, indicate your preferred mailing address by answering the questions at the bottom of the sheet. Return this form as soon as possible to RTI, 1615 M St. NW, Washington DC 20036 in the prepaid envelope provided.

RESIDENCE

ADDRESS CORRECTIONS

Name:

Street address:

City, State, Zip:

Telephone () -

CONFIRMED: _____

WORK

ADDRESS CORRECTIONS

Institution/Company:

Department:

Street address:

City, State, Zip:

Telephone: () -

CONFIRMED: _____

I prefer the survey mailed to (CHECK ONE)

My residence: _____

My work address: _____

OMB #: 0937-0202

Exp : 12/31/94

Dear Survey Participant:

The Office of Research Integrity (ORI) has contracted with Research Triangle Institute (RTI) to conduct a survey of individuals who have reported misconduct in science. This survey which is being conducted under the authority of Section 493 of the Public Health Service Act (42 U.S.C. 289b) will determine some things that have happened to them as a result of making such a report. The survey includes **only** those individuals whose claims have come to the attention of ORI **and** whose cases are closed.

As you know, there is considerable speculation about the consequences of reporting misconduct. Unfortunately, the information available is primarily anecdotal. With this survey, which will involve 75-100 individuals like you, we hope to compile qualitative and quantitative data to form a clearer picture of the consequences of those who allege misconduct in science.

ORI, located in the Office of the Assistant Secretary for Health, is conducting the study because it develops the policies and procedures by which the Public Health Service handles reports of misconduct in science. One policy area of major concern is the protection of individuals who report misconduct.

Since ORI records on closed misconduct cases indicate that you reported misconduct in science, we are asking you to participate in the survey. Please complete and return the attached questionnaire in the envelope provided. The questions will not ask any specific identifying information. The information that is collected from this survey will be maintained as part of a system of records defined by the Privacy Act (5 U.S.C. 552a). The system number and title is 09-25-0156, "Records of Participation in Programs and Respondents in Surveys Used to Evaluate Programs of the Public Health Service, HHS/PHS/NIH." No individual will be identified in any report or publication resulting from this survey. The questionnaire is numbered only to assist us in our follow-up efforts and will not be used to identify you with your responses. The link between you and your responses will be destroyed after analysis is completed.

There is little or no risk or benefit associated with inclusion in this study and your participation is, of course, voluntary. We sincerely hope you take part in this survey because this important issue needs input from those who have gone through the experience. If you have any questions about the survey or any other aspect of the study, please feel free to call Mary-Anne Ardini at RTI, 1-800-334-8571 ext 2055. If you have questions about your rights and protections as a survey participant, please call Barbara Moser at RTI, 1-800-334-8571 ext 6083.

Thank you very much for your help and we look forward to your participation in this survey.

Sincerely,

Lawrence Rhoades, Ph.D.
Director
Division of Policy and Education
Office of Research Integrity

James S. Lubalin, Ph.D.
Project Director
Research Triangle Institute

Public reporting burden for this collection of information is estimated to average 32 minutes. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Reports Clearance Office, PHS; Attn:PRA; Room 721-B, Humphrey Bldg; 200 Independence Ave. S.W. Washington D.C. 20201; and to Office of Management and Budget; Paperwork Reduction Project(0937-XXXX);Washington D.C.

Study of the Consequences of Whistleblowing

Circumstances Surrounding Incident

1. In what month and year did you first report an allegation of misconduct?

_____ _____
Month Year

2. At the time of the allegation, what was the highest degree you held? (CIRCLE ONE RESPONSE)

- Ph.D or D.Sc. 1
- MD and PhD 2
- MD, MB OD, or DDS 3
- MS or MSc 4
- BS or BA 5
- RN 6
- LN, Affiliate 7
- Other (Specify): _____ 9

3. Please indicate the type of setting you were working in at the time of the allegation. (CIRCLE ONE RESPONSE)

- Academic institution 1
- Hospital 2
- Intramural(NIH/FDA/etc) 3
- Industry/Corporate 4 **GO TO 4**
- Other (Specify):
_____ 5

3a. What department was that?

- Basic Science 1
 - Clinical 2
 - Other (Specify):
_____ 3
-

4. At the time of the allegation, what was the nature of the salary support for your position? (CIRCLE ONE RESPONSE)

- 100% university funds. 1 (GO TO 5)
- Combination of university funding and extramural funding 2
- 100% extramural funding 3
- Unpaid position/student only 4
- NOT APPLICABLE 5 GO TO 5
- DON'T KNOW 8

4a. Indicate the source(s) of extramural funding. (CIRCLE ALL THAT APPLY)

- State funding 1
- Research Grant/Contract 2
- Program Project Grant 3
- Industrial Grant/Contract 4
- Fellowship/Traineeship 5
- Other (Specify)_____ 6
- DON'T KNOW 8

5. What was your position at the institution at the time of the allegation? (CIRCLE ALL THAT APPLY)

- | | |
|-----------------------------------|---|
| Professor 01 | Staff Scientist 12 |
| Associate Professor 02 | Principal/Independent Investigator 13 |
| Assistant Professor 03 | Postdoctoral Fellow 14 |
| Instructor/Lecturer 04 | Research Associate 15 |
| Senior Administrator 05 | Nurse 16 |
| Dept. Chair/Head 06 | Technician 17 |
| Division Head 07 | Support/Secretarial Staff 18 |
| Laboratory Chief 08 | Medical Student 19 |
| Section Chief 09 | Graduate Student 20 |
| Senior Consultant 10 | Undergraduate Student 21 |
| Resident/Intern 11 | Other (Specify)_____ 22 |

5a. Were you...(CIRCLE ONE RESPONSE)

- tenured 1
 - tenure track 2
 - nontenure track 3
 - visiting or adjunct 4
 - NOT APPLICABLE 5
-

6. Was your position full time, part time, a temporary position with a duration of less than one year or were you a student only? (CIRCLE ONE RESPONSE)

- Full time 1
- Part time 2
- Temporary 3
- Student only 4

7. At the time of the allegation, what was your relationship to the accused? (CIRCLE ALL THAT APPLY. IF MORE THAN ONE ACCUSED, MARK THE APPROPRIATE COLUMN FOR EACH)

<u>I was the:</u>	Of Person 1 <u>Ac-</u> <u>cused</u>	Of Person 2 <u>Accused</u>	Of Person 3 <u>Accused</u>
Supervisor/superior	01	01	01
Collaborator	02	02	02
Reviewer	03	03	03
Colleague in the same de- partment	04	04	04
Colleague in a different department	05	05	05
Scientist/clinician at differ- ent institution	06	06	06
Post-doctoral fellow	07	07	07
Graduate student	08	08	08
Undergraduate student ...	09	09	09
Subordinate	10	10	10
Other (Specify): _____	11	11	11

Whistleblowing Incident

8. What type(s) of misconduct was alleged? (CIRCLE ALL THAT APPLY. IF MORE THAN ONE ACCUSED, MARK THE APPROPRIATE COLUMN FOR EACH)

	Person 1	Person 2	Person 3
	<u>Accused of:</u>	<u>Accused of:</u>	<u>Accused of:</u>
Fabrication of data	01	01	01
Falsification of data	02	02	02
Plagiarism	03	03	03
Other (Specify): _____	04	04	04

9. To whom did you report the allegation(s)? (CIRCLE ALL THAT APPLY)

- Executive secretary of review group 01
- Laboratory chief/director 02
- Department head/chair 03
- Dean of college/school/university 04
- Journal editor 05
- Principal investigator 06
- Institutional Misconduct Official 07
- ORI/OSI 08
- Funding Agency 09
- Other (Specify):
_____ 10
- DON'T KNOW 98

10. Where was the case publicized? (CIRCLE ALL THAT APPLY)

- Scientific journals 1
 - Newspapers 2
 - Magazines 3
 - Campus newspaper 4
 - Television 5
 - Electronic Bulletin Board/E-mail 6
 - Other (Specify):
_____ 7
 - NONE 8
 - DON'T KNOW 9
-

11. By whom was your identity as a whistleblower known? (CIRCLE ALL THAT APPLY)

- Accused 01
- Laboratory chief/director 02
- Department head/chair 03
- Dean of college/school/university 04
- Investigation panel 05
- Inquiry panel 06
- Center head 07
- Colleagues 08
- Other (Specify):
_____ 09
- DON'T KNOW 98

Responses to Allegation

12. What response did the allegation(s) produce? (CIRCLE ALL THAT APPLY)

- A formal inquiry by the institution 1
- A formal investigation by the institution 2
- A formal inquiry by a Federal Agency 3
- A formal investigation by a Federal Agency 4
- Other (Specify):
_____ 5
- DON'T KNOW 8

13. Please indicate the final outcome of the allegations:

- No allegations were supported 1 (GO TO 17)
 - Some allegations were supported 2
 - All allegations were supported 3
 - DON'T KNOW 8
-

14. For those found to have committed misconduct, what sanctions were imposed on the accused **by the institution?** (CIRCLE ALL THAT APPLY. IF MORE THAN ONE ACCUSED, MARK APPROPRIATE COLUMN FOR EACH)

	<u>Person 1 Accused</u>	<u>Person 2 Accused</u>	<u>Person 3 Accused</u>
Letter of reprimand	01	01	01
Letters of reference to include description of misconduct	02	02	02
Withdrawal of manuscripts	03	03	03
Withdrawal of applications	04	04	04
Dropped from grants	05	05	05
Apology to person whose work was plagiarized	06	06	06
Retraction of articles	07	07	07
Correction of articles	08	08	08
Required supervision	09	09	09
Revocation of tenure	10	10	10
Repayment of funds	11	11	11
Denial of tenure	12	12	12
Resignation	13	13	13
Notification to relevant parties	14	14	14
Other (Specify): _____	15	15	15
NONE	16	16	16
DON'T KNOW	98	98	98

15. What sanctions were imposed on the accused **by the Federal government**? (CIRCLE ALL THAT APPLY. IF MORE THAN ONE ACCUSED, MARK APPROPRIATE COLUMN FOR EACH)

	<u>Person 1</u> <u>Accused</u>	<u>Person 2</u> <u>Accused</u>	<u>Person 3</u> <u>Accused</u>
Letter of reprimand	01	01	01
Required institution to certify data in grant application	02	02	02
Required accused to certify appropriate attribution of sources in grant applications	03	03	03
Required institution to establish supervisory plan	04	04	04
Prohibited from serving on PHS advisory committees	05	05	05
Informed advisory councils	06	06	06
Recovery of funds	07	07	07
Termination of grant	08	08	08
Debarred from receiving federal funds	09	09	09
Other (Specify): _____	10	10	10
NONE	11	11	11
DON'T KNOW	98	98	98

16. During this time, who provided you support and encouragement with regard to the whistleblowing incident? (CIRCLE ALL THAT APPLY)

University administrators	01
Dean of college/school	02
Department chair/head	03
Laboratory chief/director	04
Center director	05
Colleagues	06
Postdoctoral fellows	07
Graduate students	08
Spouse/partner/family/friends	09
Federal Officials	10
Other (Specify): _____	11
NO ONE PROVIDED SUPPORT	12

17. Please indicate which of the following actions you experienced during the whistleblowing incident because of your involvement. (CIRCLE ALL THAT APPLY.) Then, for each action experienced, indicate the type of person(s) responsible for the action. Refer to the Person List below and, on the lines provided, record the letter(s) that best represent the type of person(s). (RECORD AS MANY PERSON TYPES AS APPLY FOR EACH ACTION.)

PERSON LIST

A=University Administrator
B=Dean of College/School
C=Department Chair/Head
D=Laboratory Chief/Head
E=Center Director
F=Colleagues

G=Scientific/Society Professional
H=Accused
I=Students (Specify) _____
J=Other (Specify) _____
K=Other (Specify) _____

ACTION EXPERIENCED DURING INCIDENT	PERSON(S) RESPONSIBLE (Record letter from Person List)
Pressure to drop allegations 01	_____
Delay in clearing manuscripts 02	_____
Denial of tenure 03	_____
Counter allegations against you 04	_____
Reduction in research support 05	_____
Reduction in staff support 06	_____
Reduction in travel funds 07	_____
Lawsuit initiated or threatened 08	_____
Delay in processing grant applications 09	_____
Fired 10	_____
Denial of promotion 11	_____
Appointment not renewed 12	_____
Denial of salary increase 13	_____
Less desirable work assignments 14	_____
Ostracism by colleagues 15	_____
Other (Specify): _____ 16	_____
Other (Specify): _____ 17	_____
Other (Specify): _____ 18	_____
NONE 19 (GO TO 18)	

Consequences of Allegation

18. Please indicate which of the following actions you experienced after the whistleblowing incident because of your involvement. (CIRCLE ALL THAT APPLY.) Then, for each action experienced, indicate the type of person(s) responsible for the action. Refer to the Person List below and, on the lines provided, record the letter(s) that best represent the type of person(s). (RECORD AS MANY PERSON TYPES AS APPLY FOR EACH ACTION.)

PERSON LIST

A=University Administrator
B=Dean of College/School
C=Department Chair/Head
D=Laboratory Chief/Head
E=Center Director
F=Colleagues

G=Scientific/Society Professional
H=Accused
I=Students (Specify) _____
J=Other (Specify) _____
K=Other (Specify) _____

ACTION EXPERIENCED AFTER INCIDENT	PERSON(S) RESPONSIBLE (Record letter from Person List)
Delay in clearing manuscripts 01	_____
Denial of tenure 02	_____
Counter allegations against you 03	_____
Reduction in research support 04	_____
Reduction in staff support 05	_____
Reduction in travel funds 06	_____
Lawsuit initiated or threatened 07	_____
Delay in processing grant applications 08	_____
Denial of promotion 09	_____
Denial of salary increase 10	_____
Less desirable work assignments 11	_____
Ostracism by colleagues 12	_____
Other (Specify): _____ 13	_____
Other (Specify): _____ 14	_____
Other (Specify): _____ 15	_____
NONE 16 (GO TO 19)	

19. Please indicate which of the following beneficial actions you experienced after the whistleblowing incident because of your involvement. (CIRCLE ALL THAT APPLY.) Then, for each action experienced, indicate the type of person(s) responsible for the action. Refer to the Person List below and, on the lines provided, record the letter(s) that best represent the type of person(s). (RECORD AS MANY PERSON TYPES AS APPLY FOR EACH ACTION.)

PERSON LIST

A=University Administrator
B=Dean of College/School
C=Department Chair/Head
D=Laboratory Chief/Head
E=Center Director
F=Colleagues

G=Scientific/Society Professional
H=Accused
I=Students (Specify) _____
J=Other (Specify) _____
K=Other (Specify) _____

BENEFICIAL ACTION EXPERIENCED AFTER INCIDENT	PERSON(S) RESPONSIBLE (Record letter from Person List)
Letter of commendation 01	_____
An award 02	_____
Complimentary article in campus/town newspaper . . 03	_____
Citation from faculty senate 04	_____
Recognition at a department faculty meeting 05	_____
Other (Specify):_____ 06	_____
Other (Specify):_____ 07	_____
Other (Specify):_____ 08	_____
NONE 09 (GO TO 20)	_____



20. How satisfied were you with the handling and outcome of the following? (IF NOT APPLICABLE, CIRCLE THE "6" CODE)

	<u>Very Satisfied</u>	<u>Somewhat Satisfied</u>	<u>Neither Satisfied or Dissatisfied</u>	<u>Somewhat Dissatisfied</u>	<u>Very Dissatisfied</u>	<u>NOT APPLICABLE</u>
<u>Institutional</u>						
Inquiry	1	2	3	4	5	6
Investigation	1	2	3	4	5	6
Sanctions	1	2	3	4	5	6
 <u>Federal</u>						
Inquiry	1	2	3	4	5	6
Investigation	1	2	3	4	5	6
Sanctions	1	2	3	4	5	6

21. Have you instituted a lawsuit?

- Yes 1
- No 2

22. Have you attempted to have the allegation(s) reinvestigated? (CIRCLE ALL THAT APPLY)

- No 1
- Yes, by the institution 2
- Yes, by a Federal agency 3
- Yes, by a Congressional committee 4
- Yes, by some other group (Specify):
_____ 5



23. Are you currently employed?

- Yes 1
- No 2 (**GO TO 27**)

24. Are you employed at the same institution where you were working at the time of the allegation(s)?

- Yes, in the same department 1 (**GO TO 28**)
- Yes, in a different department 2
- No, not any longer 3

25. Do you consider the change an advancement or a desirable change?

- Yes 1
- No 2

26. Are you currently conducting research?

- Yes 1 (**GO TO 27**)
- No 2

26a. What sort of work are you doing?

27. Was the whistleblowing incident a factor in the current status of your employment?

- Yes 1
 - No 2
-

28. Using the scale provided, please indicate the type of effect the whistleblowing incident has had on the following areas of **your career**. (IF THE INCIDENT HAD NO EFFECT, MARK THE "3" CODE. IF YOU ARE UNCERTAIN WHETHER THE INCIDENT HAD AN EFFECT, MARK THE "6" CODE.)

	Very <u>Positive</u>	Somewhat <u>Positive</u>	<u>No Effect</u>	Somewhat <u>Negative</u>	Very <u>Negative</u>	<u>UNCERTAIN</u>
<u>Positive</u>						
Reputation	1	2	3	4	5	6
Income	1	2	3	4	5	6
Promotions	1	2	3	4	5	6
Tenure	1	2	3	4	5	6
Job mobility	1	2	3	4	5	6
Consulting	1	2	3	4	5	6
Collaborations	1	2	3	4	5	6
Networking	1	2	3	4	5	6
Field of Research	1					
Other (Specify)		2	3	4	5	6
_____	1					
Other (Specify)		2	3	4	5	6
_____	1					

29. Using the scale provided, please indicate the type of effect the whistleblowing incident has had on the following areas of **your personal life**. (IF THE INCIDENT HAD NO EFFECT, MARK THE "3" CODE. IF YOU ARE UNCERTAIN WHETHER THE INCIDENT HAD AN EFFECT, MARK THE "6" CODE.)

	Very <u>Positive</u>	Somewhat <u>Positive</u>	<u>No Effect</u>	Somewhat <u>Negative</u>	Very <u>Negative</u>	<u>UNCERTAIN</u>
Physical health	1	2	3	4	5	6
Mental health	1	2	3	4	5	6
Finances	1	2	3	4	5	6
Self-identity	1	2	3	4	5	6
Self-esteem	1	2	3	4	5	6
Marriage	1	2	3	4	5	6
Family	1	2	3	4	5	6
Spouse/Partner	1	2	3	4	5	6
Children	1	2	3	4	5	6

30. Using the scale provided, please indicate the type of effect the whistleblowing incident had on **your participation in the following activities**. (IF THE INCIDENT HAD NO EFFECT, MARK THE "3" CODE. IF YOU ARE UNCERTAIN WHETHER THE INCIDENT HAD AN EFFECT, MARK THE "6" CODE.)

	<u>Very Positive</u>	<u>Somewhat Positive</u>	<u>No Effect</u>	<u>Somewhat Negative</u>	<u>Very Negative</u>	<u>UNCERTAIN</u>
Present papers	1	2	3	4	5	6
Chair sessions	1	2	3	4	5	6
Organize sessions	1	2	3	4	5	6
Review papers	1	2	3	4	5	6
Elected offices	1	2	3	4	5	6
Committee membership . . .	1	2	3	4	5	6
Editorial posts	1	2	3	4	5	6
Teaching	1	2	3	4	5	6
Research	1	2	3	4	5	6
Collegial relations	1	2	3	4	5	6
Other (Specify) _____	1	2	3	4	5	6
Other (Specify) _____	1	2	3	4	5	6
Other (Specify) _____	1	2	3	4	5	6

31. What **overall effect** did bringing the allegation of scientific misconduct have on your career?

- Very positive 1
- Somewhat positive 2
- Slightly positive 3
- No effect 4
- Slightly negative 5
- Somewhat negative 6
- Very negative 7
- Uncertain 8

Overall assessment of incident

32. Do you think there is a stigma attached to whistleblowing?

- Yes 1
- No 2
- Probably 3
- Uncertain 4

33. Would you blow the whistle again?

- Yes 1
- No 2
- Probably 3
- Uncertain 4

34. After reflecting on the whistleblowing incident, is there anything you would like to add to describe your overall experience of the incident?

35. What advice would you give someone who is considering bringing an allegation of scientific misconduct?

36. Please describe any important issues missing from this questionnaire that should be discussed in order to gain a full understanding of the whistleblowing incident:

APPENDIX B

Script for Telephone Reminder Calls

Script for Collection of Survey Data by Telephone

"Hello, my name is _____ and I'm calling from Research Triangle Institute in Washington D.C. We are currently under contract to the Office of Research Integrity to conduct a survey of individuals who have made allegations of research misconduct. The survey is designed to determine some of the things that happened to them as a result of this experience. We recently sent you a survey to complete but have not yet gotten it back. Perhaps you didn't receive the form or misplaced it or just haven't had time to fill it out yet. But since we are getting close to our deadline for collecting information, I'm calling to see if we can complete the survey over the phone. It won't take long and your participation is very important to the success of the study. ORI is very interested in knowing the consequences which people experienced as a result of bringing an allegation of research misconduct. Do you have the time to go through the survey with me now?"

IF NO; ARRANGE CALLBACK TIME.

IF RESPONDENT IS RESISTENT TO HAVING TELEPHONE INTERVIEW, ASK IF HE/SHE HAS THE SURVEY FORM TO COMPLETE AND WOULD BE WILLING TO SEND IN RIGHT AWAY. IF RESPONDENT DOES NOT HAVE SURVEY, OFFER TO MAIL AGAIN OR **FAX** IF POSSIBLE.

IF RESPONDENT IS COMPLETELY UNWILLING TO DO BY PHONE, OFFER TO SEND ANOTHER SURVEY FORM AND TELL HIM/HER THAT YOU WILL CHECK BACK TO MAKE SURE IT WAS RECEIVED.

IF RESPONDENT IS WILLING TO DO SURVEY BY PHONE, CONTINUE WITH STATEMENT BELOW BEFORE CONDUCTING SURVEY:

"The information you provide will be maintained as part of a system of records defined by the Privacy Act (5 U.S.C. 552a). The system number and title is 09-25-0156, "Records of Participation in Programs and Respondents in Surveys Used to Evaluate Programs of the Public Health Service, HHS/PHS/NIH."