



HARVARD Kennedy School

ASH CENTER

for Democratic Governance
and Innovation

HARVARD ASH CENTER

for Democratic Governance and Innovation

“I WON’T BACK DOWN”?:

COMPLEXITY AND COURAGE IN
U.S. FEDERAL EXECUTIVE DECISION-MAKING

Steve Kelman
Harvard Kennedy School

Dr. Ronald Sanders
Booz Allen Hamilton

Sarah Taylor
Booz Allen Hamilton

Gayatri Pandit
Booz Allen Hamilton

AUGUST 2014

“I WON’T BACK DOWN”?:
COMPLEXITY AND COURAGE IN
U.S. FEDERAL EXECUTIVE DECISION-MAKING

ABSTRACT

Senior government executives make many decisions, not-infrequently difficult ones. Cognitive limitations and biases preclude individuals from making fully value-maximizing choices. And the “groupthink” tradition has highlighted ways group-aided decision-making can fail to live up to its potential. Out of this literature has emerged a prescriptive paradigm Janis calls “vigilant decision-making.” For this paper, we interviewed twenty heads of subcabinet-level organizations in the U.S. federal government, asking each questions about how they made important decisions. Ten were nominated by “good-government” experts as ones doing an outstanding job improving the organization’s performance, ten chosen at random. The vigilant decision-making approach is designed for difficult decisions, presumed to be informationally, technically, or politically complex. However, we found that when we asked these executives to discuss their most difficult decision, most identified decisions that were not informationally complex but instead mainly required courage to make. In this context, the vigilant decision-making paradigm might be more problematic than the literature suggests. We discuss here the different demands for decisions involving complexity and those involving courage, and suggest a contingency model of good decision-making processes that requires executives and advisors to be ambidextrous in their approaches.

Keywords: DECISION MAKING, FEDERAL EXECUTIVES, GROUPTHINK, ETHICAL DECISION MAKING, WORKPLACE COURAGE

**“I WON’T BACK DOWN”?:
COMPLEXITY AND COURAGE IN
U.S. FEDERAL EXECUTIVE DECISION-MAKING**

Senior government executives make many decisions, frequently difficult ones. By “difficult” decisions, the literature generally means ones characterized by complex and uncertain information, and/or hard tradeoffs among conflicting values or interests (George 1972; Janis 1982; Nutt 1989); difficult decisions often involve predictions about uncertain future consequences of different courses of action and/or many conflicting goals at stake in the decision. Examples would include decisions involving design of government healthcare policies or how to respond to possible development of nuclear weapons by Iran.

Making good decisions under these circumstances is challenging, requiring skill at gathering and analyzing the complex information relevant to the decision. Cognitive limitations preclude individuals from fully considering all relevant information, and cognitive biases can also interfere with proper information-gathering and analysis by individuals. Done properly, involving advisors or other outside information sources can compensate for such individual-level limitations. However, the literature on “groupthink” highlights ways a group-aided process can fail to live up to its potential to help a decision-maker with information-gathering and analysis. Out of this literature has emerged an approach Janis (1989) calls “vigilant problem-solving.” This refers to a process where those advising a decision-maker are selected so as to bring to the discussion diverse knowledge and opinions; and where the leader solicits dissenting views, critically examines costs and risks of the preferred choice, and is willing to revise his or her initial view in response to the deliberations. “Vigilant” problem-solving is widely seen as the best process for making difficult decisions.¹

For this paper, we interviewed twenty heads of subcabinet-level organizations in the U.S. federal government during the Obama administration, asking each the same questions about elements of how they made important decisions. Ten were nominated by “good-government” experts as ones who had done an outstanding job improving their organization’s performance. Ten were chosen at random from a listing of all federal subcabinet-equivalent positions. Our goal was to see whether there were significant differences in the extent to which executives in the two categories, when making difficult decisions, used the kind of vigilant problem-solving process the literature recommends.

Something we found surprised us, however. Asked in one part of our interview to discuss their “most-difficult” decision, most executives (and nine of ten outstanding ones) did not identify decisions that were informationally complex. Instead, what they said was hard about their most-difficult decision was not deciding what the right thing to do was but to be willing to do it. In other words, these were decisions requiring courage in the face of some personal, political, or organizational risk.

Our surprising finding about the nature of these executives’ most-difficult decision has led us away from our initial research focus on whether outstanding executives are more likely than others to use vigilant procedures to help them make difficult decisions and instead to focus on the distinction between decisions involving complexity and involving courage.² The classic Tom Petty song “I Won’t Back Down” comes to mind. Is Petty’s declaration a good approach for executive decision-making? The literature suggests that the answer is just the opposite. The effective decision-maker needs, as an individual, to have the disposition and the ability to gather new information, and to “back down” from his or her initial stance, to overcome individual-level confirmation bias. And the optimum group-aided

decision process should expose the decision-maker to dissent and debate as well as rich, multiple sources of information, to encourage him or her to question initial assumptions.

But that vigilance, so ideally suited to decisions involving complexity, may not be appropriate in situations where a difficult decision has more to do with courage and character. For such decisions, the abilities required may be more characterological and conative than cognitive -- a sense of moral identity, along with steadfastness actually to make the wrenching decision. And the appropriate decision-making process may require advisors who steel the decision-maker to display the needed resolve. For these kinds of decisions, Tom Petty may be correct.

We thus present in this paper a contingency model of good executive decision-making, where the right abilities and the right processes depend on whether the decision is difficult because of complexity or because of the need for courage. In contrast to the research on complex decisions, “courageous” decisions are under-theorized and under-investigated. With our empirical findings as a jumping-off point, we will in the last section of this paper theorize about abilities and processes required for difficult decisions involving courage.

THE THEORY OF “VIGILANT” DECISION-MAKING³

The original background for this research was the literature arguing for what Janis (1982) calls “vigilant” problem-solving by leaders using a group of advisors. The enormous literature on individual decision-making (e.g. March and Simon 1958; Braybrooke and Lindblom 1970), notes that to make a “rational” (value-maximizing) decision, one would need to list all alternative strategies, determine all consequences of the alternatives, and comparatively evaluate these in light of one’s values. As critiques – including those of March and Simon or Braybrooke and Lindblom

-- have emphasized, it is impossible to fully realize this ideal because of data-gathering and analysis burdens. Literature on cognitive biases (e.g., Kahneman 2011; Bazerman and Moore 2012) has added new concerns, including overconfidence in estimates about states of the world, and confirmation bias, which suggests initial impressions “are remarkably perseverant and unresponsive to new input, even when such input logically negates the original basis for the impressions” (Ross et al. 1975: 880; see also Lord et al. 1979). If cognitive limitations and biases create problems for an individual making a decision alone, one alternative for leaders is to get advice or information from advisors,⁴ who can provide multiple sources of information richer than what leaders possess themselves (Jehn et al. 1999), as well as counteracting individual biases, since different people bring different biases to the table (Kahneman 2011). Additionally, diverse group members can provide differing opinions for deliberation.

However, most of the literature on using groups to provide leaders with advice, particularly at the top of government, emphasizes pathologies. The best known is Janis’ work (1982; 1989; see also George 1974) on “groupthink” – a phenomenon where leaders stifle dissent inside a group of advisors and members conform, producing inadequate, biased information search and failure to consider enough alternatives. What Janis (1982) calls “vigilant” problem-solving is a model for how a leader can use a group to help make good decisions – using a group of advisors characterized by diversity of knowledge and opinion, soliciting dissenting views, being willing to consider new information, challenging initial assumptions, and critically examining costs and risks of the preferred choice. What vigilant decision-making tries to avoid is too much agreement inside the group. The prescription is “more is better” – more information search, discussion, and opportunities for dissent.

We originally conceived this research because, though there is some evidence vigilant information-gathering is associated with better decisions (Tetlock et al. 1992; Orlitsky and Hirakowa 2001), most of this research involves foreign policy, military crises, and presidential decision-making; there are few empirical studies on the quality of leader decision processes in the normal operations of federal agencies, particularly domestic agencies. In addition to other obvious differences between these presidential crisis decisions and others, the former are more insulated from transparency demands and legal requirements (such as the Administrative Procedures Act and the Federal Advisory Committee Act).

Thus, the main research question we originally sought to examine was to what extent decision processes of senior U.S. federal subcabinet executives generally correspond to the ideal of vigilant decision-making. We also wanted to examine whether outstanding executives use better decision processes than others – suggesting one reason they had been successful is that they use better decision processes. However, some of the findings from our interviews caused us to explore a topic we originally did not intend to examine – leader decision-making when decisions are not informationally complex but instead are wrenching. That is the subject of this paper.

DATA AND METHODS

The Sample

For this study, we interviewed both ten “outstanding executives” and a control group of ten randomly chosen executives of comparable rank and responsibility. To locate outstanding executives, we solicited nominations from experts in the U.S. federal government. We approached Fellows of the National Academy of Public Administration (NAPA), a congressionally chartered honorary association for

distinguished scholars and practitioners studying or working in government (N=677), and the Partnership for Public Service’s select group of Strategic Advisors to Government Executives (SAGE’s), a group of former senior federal officials in information technology, contracting, financial management, and human resources (N=74). Second, we approached a smaller group of senior current officials with a government wide perspective (“luminaries”); that group comprised Office of Management and Budget program associate directors and management directors, Government Accountability Office experts; committee staff of the Senate Governmental Affairs Committee and the House Oversight and Government Reform Committee, former members of Congress, and a journalist from a media outlet that specializes in covering government management (N=16).

Potential nominators received a letter from us stating inter alia:

We are asking for your help in identifying senior-level subcabinet executives who have served in the Obama Administration, and whose performance in managing and leading their organization has been outstanding. We are focusing in the first instance on individuals at the assistant secretary level, but these executives may also have titles such as Administrator, Commissioner, or Director. They could also be executives who are in charge of running a program or agency, as well as executives with cross-cutting management responsibilities (such as CXO’s). ...

You may define “outstanding performance” as you feel appropriate, but we ask you to think about executives who have made a significant contribution to improved results delivered by their organization, without regard to whether you personally agree or disagree with the executive’s substantive policy agenda.

After two reminders, responses were received from 38 NAPA fellows/SAGE’s, providing a total of 93 nominations. After follow ups, all 16 luminaries

replied, providing 107 nominations. We determined a nominee would become part of our outstanding executive group based on one of these criteria: 1) two or more nominations from both NAPA/SAGE group and luminaries; 2) three or more nominations from luminaries, independent of NAPA/SAGE nominations; or 3) three or more nominations from NAPA/SAGE, along with one luminary. Based on these criteria, 11 executives qualified. However, one was eliminated since the person belonged to an organization of insignificant size.⁵

To select the control group, we used the “Plum Book” (Committee on Homeland Security and Governmental Affairs 2008), and took positions with the titles Assistant Secretary, Undersecretary, Administrator, Director, and department-level (but not subcabinet) Chief Financial Officer, Chief Information Officer, and Chief Human Capital Officer.⁶ We excluded positions responsible for an organizational budget smaller than that of the smallest of any outstanding executive. (N=388)⁷ We selected the control group using a random number generator. However, the ten outstanding executives included a disproportionate number of people with CFO and CIO positions (four in total), so we split control group selection into two drawings, one for CFO’s and CIO’s meeting our criteria, the other for everybody else. Four individuals selected as controls declined to participate, so four replacements were selected using the same procedure. We discuss general issues involved in choosing outstanding government executives, and defend our approach, in Kelman and Myers (2011).

The Survey

Interviews were conducted during the last year of the first term and the first year of the second Obama term. Each respondent was interviewed in person (generally for 2-4 hours), and interviews recorded and then transcribed; we have over 2000 pages of

transcription. Interviews followed a standard format, with mostly open-ended questions. For the section of the interview on decision-making, we asked questions about the respondent’s information/advice sources, techniques for encouraging dissent, and situations where they had changed their mind while making or executing a decision (responses to these questions are discussed in Kelman et al. (2014).

One question in our survey was: “Please think about the single most-difficult major decision you have made on this job. What was the decision? Why was it difficult? How did you go about making the decision?” The reason we asked respondents to discuss the process used in making their most-difficult decision was to get more specific information about how they gathered and analyzed varying information and opinions. In keeping with discussions in the literature regarding what makes decisions difficult, we expected them to present decisions that were cognitively complex.⁸ However, this wasn’t the kind of decision they discussed. Responses to this question form the heart of this paper.

Coding

The lead author developed an initial list of coding categories identified through preliminary reading of half the interviews. Codes were embedded in families, corresponding to the survey questions; thus, for example, one family was called “Most-Difficult Decision.” We also had coding categories for relevant or interesting statements made during the interview that were made outside the context of our interview question. All authors reviewed and revised coding categories and definitions to reach consensus about the meaning of each code. Transcripts were coded by classifying relevant text into code categories, to allow counting the presence of various categories. Coding was performed by the lead and the most-junior authors, the latter assisted (for questions or clarifications) by the second author and a

colleague, both serving as subject-matter experts. We used ATLAS.ti Version 7.1.3.⁹

For the ‘most difficult decision’ question, the coding categories included such characteristics as “technically difficult,” “difficult because politically controversial,” and “difficult because resistance from stakeholders (internal and external).” In terms of the process used by the subject to make his or her most-difficult decision, we had codes that included such things as “discusses gathering data to make decision” and “mentions ‘analysis/analyze’ in reference to making decision;” we also had a general code to demarcate any narrative that respondents may have provided about how they made the decision.

Strengths and Limitations of Our Data

One limitation of our data is small sample size. It is infeasible (without enormous resources) to get interview data for large samples of top leaders, and they do not respond to kinds of survey instruments used for the mass public (responses that do come are from staffers). Thus, as is common in qualitative research, we sacrificed breadth for depth, with in-person interviews averaging over three hours. A second limitation is we did not observe actual decision processes, which would have probably been infeasible and at a minimum extremely resource-intensive. We relied instead on detailed respondent accounts.

In all, we would argue that, compared to much qualitative research, our method is relatively more disciplined and rigorous. Respondents were chosen in a systematic way. Our standard set of questions allows counting and comparison. Still, we present our results as suggestive only. The findings regarding “vigilant” decision processes provided in Kelman et al. (2014) may be seen as providing field evidence for propositions developed in the lab or only in studying very high-crisis, high-level foreign-policy decisions. Our findings in this

paper about most-difficult decisions, which we came upon unexpectedly, may be seen as reflective of the view qualitative research helps with theory-generation more than testing (Edmondson and McManus 2007).

RESULTS

The central, and to us surprising, finding we present in this paper is that when we asked respondents why their most-difficult decision was so difficult, only one of the ten outstanding executives, and only five controls, answered this was because it was informationally, technically, or politically complex. Instead, respondents stated the decision was difficult because it was generally unpopular within the organization (often among those whose ox would be gored), with its overseers, among external stakeholders, or even that it went against the wishes of their own Administration; other decisions were presented as being difficult because they involved emotionally wrenching issues regarding employees.

Of the decisions of this type cited by the outstanding executives:

(1) Three involved decisions that went against the recommendations or directives of powerful outside organizations (the Office of Management and Budget and the Government Accountability Office) or the executive’s own hierarchical superiors.

(2) Three involved decisions to cancel or curtail programs over the strong opposition of the organizations managing them.

(3) Three involved decisions to get rid of long-time career managers, to lay off staff, or to restructure jobs.¹⁰ The executives who made courageous decisions knew what “the right thing to do” was—although (given that many of these decisions were unpopular, others would almost certainly disagree with them in that regard). However, they also knew that doing the right thing would be exceedingly difficult. What made these

decisions so difficult was that actually doing what they regarded as the right thing required courage.

We distinguish the unpopular decisions these executives discussed from ones we would characterize as involving political or policy complexity. Decisions that are complex in terms of politics or policy are ones that feature difficult and controversial tradeoffs involving worthy values in conflict (such as efficiency vs. equity, or national security vs. privacy) or that have strong advocates on different sides (such as business vs. consumers or a House committee chair vs. a Senate one). Decisions that are complex in terms of politics or policy involve difficult balancing: should we raise tax rates for the wealthy to reduce inequality even at the cost of some decline in economic growth? Should the executive accept the views of the House committee chairman or the Senate one when either decision will make the other chair unhappy? However, in contrast to decisions that required balancing competing values and interests, the decisions these executives discuss required them to challenge opponents, where there were few if any organized supporters for what the executive thought was right. Executives did experience a difficult tradeoff in these decisions, but it was of a different type: between doing what the executive perceived was the right thing to do and the aversive personal and/or professional consequences doing the right thing might produce.¹¹

In all these cases, the executive displayed courage. They chose the decision they regarded as painful but right.

[Congress had passed major legislation affecting the agency's mission, and the agency needed to move to implement this legislation.] However, the government was in the middle of budget-crisis land and continuing resolutions and the beginning of the [presidential election] campaign at that time, and OMB simply did not want to support us in getting moving on [this],... and to

get treated differently so that we could begin spending money we needed to [implement the legislation]. ... So I had to make the decision, do I just eat this or do I hope for the best?... I was kind of, in a way, left fighting the fight myself, you know, so a guy with fewer tools and smaller tools up against people who can be very hard to deal with. So I had to go -- really kind of go toe-to-toe with OMB and say, "Absolutely not. I am going to go tell Congress directly that I need an anomaly, and I don't care. You can fire me. You only get to do that once. I dare you. And I'm going to go get this because I've got to have it to implement this legislation." You always have a choice. And not fighting is actually not that hard of a choice in government because there's so little actual accountability. So at the end of the day, on all of these things, I've had to just say, "All right, I know what I'm going to do. I'm going to go do it." (outstanding executive)

Sometimes what you have to do is as clear as day, but the implementation is going to be difficult. ... If you start to care more about what people think about you than your job, you're going to start compromising your decisions. And as soon as you start doing that, you start having to spend a lot of time thinking, because if the question isn't, "Is it the right thing to do?" then why the hell are we doing it? "Well, there's a political consequence to it," they say. Well, I'm going, "Yeah, guess what. That's life." (outstanding executive)

We decided to stop 45 programs. What was difficult about that is it's the caliber of hard decision that has a huge impact on an agency. I'm asking my Cabinet Secretary boss I'd been working for, for exactly thirty days to trust me on this one. ... I'm not wading into the pool. I'm going to belly-smacker this thing, and it's either going to work really well or it's going to be really bad. (outstanding executive)

Adverse personnel decisions are tough because they impact individuals

– immediate feedback, impact on specific individuals, so if you have any compassion, it's hard [One of the senior career SES¹² people] thought his own performance was outstanding, I thought it wasn't, and I needed to take up a notch. I needed somebody more engaged, less ceremonial, who just attended meetings and carried the title. He thought his record showed tangible, definable things he could demonstrate to support his viewpoint, I thought in many cases these things cut in the opposite direction == showed he was not collaborative, didn't work well with teammates, didn't inform me and others of developments. He was a classic negative SES model of hiding problems, hoping nobody will ever know. He wanted to keep superiors and peers out of his work, he had a real sense of proprietorship and ownership, a classic turfist. Also, he had the attitude, "I have a big title, I want a big office, I have a lot of staff, I will sign up for the big meetings, others will do the work." So I had a long process of establishing the performance measures, having a conversation about what his performance was. He refused to sign his performance assessment. I had to explain to him this position was not his personal job, it belongs to the institution. He associated himself personally with the job. It was one of those things we needed to do, I knew we needed to do it.

[When I said I wanted to take a risk to try rolling out the program to another installation], everybody was saying, "Are you out of your mind?" ...It didn't go well at installation one. ...Everybody, all the overseers and the acquisition team, was like, "No, no, no." It was bad, and it had to be redone. And I said, "How are you going to know if it works, if you fixed it, unless you take it somewhere else?" ...I said, "Hey, I'm going to let this thing go very limited. It's going to be very controlled." [I was told], "All the antibodies here are saying, 'Don't do it.'" I just said, "Hey, I think this is something we need to do. If it doesn't work well at the second military installation, then we know exactly what to do. But it's, I think, managing the risk and limiting the impact. ...And, I'm just going to say, against the inertia of

the entire acquisition process, I made the decision to go. ... It's just working against the inertia and the grain of the department, because we are pretty risk-averse as an organization. And that was, folks just were not supportive of taking this particular program anywhere else. But in my heart of hearts, I knew it was the right thing to do, because, otherwise, you don't know whether or not this thing is successful. I could keep it at the same base forever, but it doesn't move the ball. It's a very risk-averse move. I just thought, "Well, we've been at this long enough. We need to try the next location."

If [George Washington] listened to his critics, if his compass was such that that weather vane banked upon polling and public opinion, how could you run that army? And so sometimes it's like you just kind of have to take the position as, "If you start to care more about what people think about you than your job in this town, you're going to start compromising your decisions." And as soon as you start doing that, now you start having to spend a lot of time thinking about stuff, because if the question isn't, "Is it the right thing to do?" then why the hell are we doing it? "Well, there's a political consequence to it." I'm going, "Yeah, guess what. That's life." Could it cost you your job because it's the right thing to do, or are you going to compromise yourself? I haven't had to face that decision, but I damn sure don't go around asking people's permission to make my decisions or do polls or put my finger in the air. (outstanding executive) Why did I make this decision? I don't know. I mean, I wish I had a sexy answer for you. You know, just... I guess the same thing. I didn't come here to just waste my time. (outstanding executive).

So [persisting with strict requirements for implementation of an Administration initiative that might slow the program up] is something we had to do from a public-policy standpoint. And yet we've got this tremendous pressure to get the money out the door, and so, ultimately, I had to make a decision that we weren't going to

yield on the requirement, that doing the right thing long-term was more important to the long-term viability of the program. (control)

[The program] was something the advocates had advocated for a very long time. ... I spent a year and a half working trying to implement this. ...I finally concluded [the program could not be made to work]. But this was exceedingly difficult because of the expectations of the advocates, because of the connection with the [an Administration priority program]. ...The people who were opposing the [Administration] were pleased with the decision. The supporters of the President and Democrats in Congress were disappointed. So it was very stressful and a very difficult decision. ...[But] I've been in public service for two decades. And I was not willing to implement a public program I believe is flawed. (control)

You know, it's good public policy, and yet we've got this tremendous pressure to get the money out the door. Ultimately, I had to make a decision that we weren't going to yield on the requirement, that doing the right thing was more important to the long-term viability of the program than making an expedient decision to eliminate [the requirements], and get the monkey off our back and the money out the door. (control)

There is no theoretical reason why a decision can't involve both complexity and courage. Deciding what the right thing to do is might require calculating and analyzing large amounts of information about many possible consequences of different decisions and/or trading off among many different consequences that go in different directions. The conclusion emerging from such calculation and analysis might then be one that might be extremely unpopular or wrenching, and might require courage actually to make. However, among the decisions we characterize as involving courage, none of the nine discussed by the outstanding executives, though

two of the five discussed by controls is also complex cognitively; in discussing these decisions, the two controls who discussed cognitive complexity specifically stated that it was not this that made these decisions their most-difficult ones.

To be sure, obviously there was information-gathering of some sort involved at some point in these decisions. In some cases – such as the decisions involving resisting directives from the organization's outside overseers -- information-gathering was minimal. In others – such as concluding a senior career executive was not performing well enough or that changes in office usage in many other organizations suggested similar changes in the executive's own organization – the executive developed information over time in the regular course of doing their job.

However, only three of the nine outstanding executives reported gathering new information for the decision, beyond any information they already had before the decision appeared on the horizon.¹³

Some of those gathering data reported as follows:

One day I simply asked the team, "Hey, what is [this program] really going to do for us? Is it going to get rid of the significant deficiencies?"...And they came back with an assessment that was less than impressive for something that was going to cost a half a billion dollars. (outstanding executive)

We looked at it every way we could. We just couldn't figure out how you made the program successful, right? So we had to take the political hit and explain. ... Well, there were certainly a lot of people that thought we should continue, but in the end, I mean, it was my call because the leader of that organization was looking to me to make that recommendation, right? I mean, and I think we just had to tell people, "Look. Why continue on something where we don't have a good plan about how to be successful?" (control)

In the situations described above, lots of information may have been gathered as part of the decision process. But for the executive the information pointed fairly unambiguously in a clear direction, even though it might have been an unpleasant one (“we looked at it every way we could. We just couldn’t figure out how you made the program successful”), like the executive quoted above who spent considerable time “working trying to implement this,” only finally to conclude it couldn’t be made to work.¹⁴

A second feature of the decisions involving courage is that only a very modest number of executives (two outstanding executives, one control) referred to deliberating about the decision with advisors. Five of nine outstanding executives (two of five controls) essentially made the decision by themselves, not involving others (at least after any background information had been gathered).¹⁵

Given there is no theoretical reason why a decision that ends up involving courage cannot have been preceded by information gathering and analysis that was informationally or politically complex, we are somewhat surprised how few of the decisions involving courage had a “pre-decisionally” complex phrase. We can only speculate, but one possibility is that if an individual has engaged in a complex calculation early in the process, they will actually become less likely to experience the decision as an emotionally wrenching one involving needing to display courage to do the right thing. In a series of experiments, Zhong (2011) found that when primed by solving math problems before being put into a decision situation, subjects were more likely to lie to get more money from the experimental exercise; when asked to “decide” how much of a payment to donate to a charity, subjects donated only half as much as when asked what they would “feel like” donating. Molinsky et al (2012: 28) refer to “emotional ‘underload’” that can follow from thinking in a calculating way. We speculate that perhaps

the reason few of the difficult decisions requiring courage that respondents discussed were also complex because complex decisions may have been regarded as less-emotional and hence less-difficult.

We also ask: is there any connection between experiencing one’s most-difficult decision, as one requiring courage, and being an outstanding executive? (The most-difficult decision of nine of ten outstanding executives, but only five of ten controls, were ones we characterize as requiring courage ($p=.14$). We cannot suggest any causal connection between this finding regarding the outstanding executives and that they were also judged to be outstanding. Instead, we theorize that executive success is associated with a strong set of core beliefs and goals, along with achievement striving (Dudley et al. 2006). If true, there may be a common factor that both helps executives be successful and also makes it more likely their most-difficult decision required courage. The argument would be that a higher commitment to core beliefs and to achievement are associated both with success and also with placing an executive in situations where they know what the right thing to do is and why it’s important to do it (to achieve their goals), but where the choice is painful. Less-committed executives might not face these as their toughest decisions because they would be more inclined to respond to such situations by taking the easy way out. Still, we argue that these executives’ ability to make decisions requiring courage is related to their effectiveness. For them to be able to translate core values and need for achievement into success, they are likely to need to make such decisions. If they can develop the resolve to do so, it will help them become successful.

DISCUSSION

The vigilant decision-making model was developed for, and makes sense in the context of, decisions that are complex. Our unexpected result that almost all the decisions our outstanding executives

defined as “their most-difficult ones” were decisions we characterize as “requiring courage”, raises an important question about the “more is better” prescription in the groupthink literature. We believe that vigilant decision-making prescriptions that make sense in the context of complexity do not make sense at a stage when decisions come to require courage. To put it provocatively, perhaps the best kind of group to encourage good decision-making where what is needed is courage is exactly the kind that tradition finds most worrisome – a tightly knit in-group helping provide the leader resolve. What individual abilities encourage making a courageous decision? At an individual level, for decisions that are complex, a decision-maker should be able to minimize confirmation bias, which discourages consideration of new information that contradicts one’s prior views. When decisions come to involve courage, though, the required dispositions become less cognitive, since these decisions are generally not informationally complex. Instead, what is needed is more characterological and conative (related to action rather than thought). First, the person must have an inclination to behave ethically, to care about doing the right thing. Research suggests some people have a “moral identity,” a “self-conception organized around a set of moral traits” (Aquino and Reed 2002: 1424) that will cause the person to take seriously the demand to do the right thing. To make a decision requiring courage, the decision-maker must also have a sense of “moral potency” (Hannah and Avolio 2010), a “sense of ownership over the moral aspects of one’s environment,” a kind of self-efficacy that makes a person feel their decisions can make a difference.

But this isn’t enough. To show courage is “to continue despite one’s subjective fear” (Rachman 2010: 93; see also Koerner 2014),¹⁶ Thus, showing courage is hard to do even if one wants to do it and experiences a sense of moral potency about one’s ability to do it. The person must “ris[e] to the occasion” (Lopez, O’Byrne &

Petersen 2003: 185). They must have the resolve to act, to follow Tom Petty’s injunction and not back down.

Given that it is hard to show courage, how should a process for helping the executive make such decisions be organized? Since our findings about decisions involving courage emerged unexpectedly from our interviews, we had no questions to explore this question beyond how respondents answered our very general question about their most-difficult decision. Using the modest literature on moral courage and the display of ethical behavior in organizations, along with the small amount of information we can cull from interview questions designed with other purposes in mind, we theorize about the design of executive decision processes for decisions involving courage.

Two of the most-important prescriptions of the vigilant decision-making model are wide consultation and encouragement of dissent within the group. Either of these may be appropriate for decisions involving courage.

In terms of wide consultation, we begin with the reminder that, empirically, the decisions our respondents discussed were not informationally complex.¹⁷ This means that the argument from the vigilant decision-making paradigm for casting a wide advice net – to gather information from more sources – falls away. Beyond this, we ask how likely it is that wide consultation will serve to steel the resolve of an executive to make a choice involving courage. One can imagine there might be situations where social pressures on an executive from a large group of advisors might steel the executive’s resolve.¹⁸ However, the literature suggests the opposite is far more likely to be true, that large groups tend to reduce ethical inhibitions by providing more anonymity behind which any individual can feel shielded (or absolved) from personal responsibility (Zimbardo 2007; Moore and Gino 2013) or at a minimum by diffusing responsibility for failing to behave ethically (Latane and Darley 1968; Moore and Gino 2013). Conceptually,

using group influence to steel an executive's resolve requires that the weight of opinion in the group support the courageous decision. However, if courage were so common a thing that one could expect to see it well-represented in human action, it would be less likely to rank as highly a virtue as it does. Instead, the literature suggests that courage is often shown in opposition to the majority: "Courage in organizations is characterized mainly by oppositional behavior" against the workplace culture (Koerner 2014: 65), "Courageous principled action is likely...to often be difficult, stymied, and unpopular action" (Worline and Quinn 2003: 145).

Finally in terms of widespread consultation, we note an interesting experimental finding (Tenbrunsel, Diekmann, Wade-Benzoni & Bazerman 2010: 168) that individuals are more likely to make a "should" choice over a "want" choice when they "analyze ethical dilemmas in a non-distracting environment."¹⁹ This argues for a virtue of more private, introspective analysis in the case of decisions requiring courage that doesn't obtain for decisions that are complex. This is consistent with our surprising finding that many executives whose most-difficult decision involved courage chose to make the decision alone, without consultation.

If the executive does consult with advisors, the prescription that the process should seek to encourage dissent from advisors is also not sensible, If showing courage is hard, it would seem the last thing the executive needs from advisors for help in making a decision involving courage is more questioning about whether the executive really should make the courageous decision, Instead, if leaders need help from advisors in making such decisions, what they need is just the opposite: moral support for resolve in making the tough decision,– to avoid a temptation, in Margaret Thatcher's vivid phrase, to "go wobbly."

All this suggests that an executive who wants to use advisors to provide resolve should restrict

consultation around decisions involving courage to a small group of trusted individuals whose moral identity he or she respects. There is some evidence that mere feelings of similarity with others, as may come from a small group of trusted advisors, may increase the impact of others on an individual's ethical behavior, although the one study testing this involved measuring the tendency to cheat rather than to act ethically: Gino and Galinsky (2012) found that experimental subjects were considerably more likely to exaggerate the number of problems they had correctly solved when observing a cheating confederate who had been identified as having been born in the same month and being in the same year in college as when the confederate was identified as having a different birth month/college class.

Decision-Making Ambidexterity?

Our findings suggest the need for a contingency theory of good decision processes. For decisions that are informationally complex, the vigilant processes the literature recommends should be followed. But executives also need to know when to crank back, or dial down, on consulting or eliciting dissent, or even to go it alone. Thus, we theorize that successful executives must be able – to import a term from organizational design theory developed for different contexts (O'Reilly and Tushman 2008) – to be ambidextrous in decision processes they use. The executive must be able to organize for vigilant decision-making for the run of important decisions, but be prepared to turn this approach off when courage is required. Advisors should also be able to be ambidextrous, sensing when their leader needs discussion, debate, and dissent, and when he or she needs moral support.

We had no interview questions designed to see to what extent these executives were able, consciously or otherwise, ambidextrously to switch styles. The results from the questions we did ask results, provide slight

evidence – though we emphasize our conclusions are speculative – that outstanding executives are able to display ambidexterity. Perhaps the strongest evidence is that five of the nine outstanding executives whose most-difficult decision involved courage ultimately made that decision alone, so that for at least that decision many executives were able to switch off the normal processes they would use for the run of important decisions.

Additionally, as noted, in general the answers of outstanding executives and controls to the various other questions in our survey showed many more similarities, than differences. We present here several differences between outstanding executives and controls emerging from the interviews that are consistent with a view that outstanding executives, consciously or unconsciously, have developed techniques that make it easier for them ambidextrously to switch styles. Though we do present p-values for these differences, we emphasize that our conclusions here are extremely tentative and mostly intended to spur further research.²⁰ We theorize that a greater ability to be ambidextrous in switching styles for decisions that are complex versus those that require courage may be a source of difference between outstanding executives and others, but our evidence is insufficient to characterize this as more than a theory that would need to be investigated much further.

First, an executive who wishes to be able ambidextrously to dial up but also dial down consultation would want to develop techniques for information-gathering that are different from the normal model of an ongoing group consisting of the executive advised by his or her direct reports and personal staff. Instead, to be ambidextrous the executive would want sources of information and advice beyond the group of advisors that provide a strong reservoir of information/advice for complex decisions requiring vigilance, but that could be turned off more easily if the executive chooses. These would be sources that either do not require

consultation with other people at all and/or that involve consultation that can be turned on or off more easily. We note in this regard that outstanding executives, when asked a general question about their sources of information and advice for important decisions, were notably more likely than controls to gather information from written sources (18 mentions of various such sources compared with 10 for controls), and outside academics (4 mentions versus 1) ($p=.03$). These kinds of sources may provide the benefits of information available to use for decisions emphasizing courage where the executive wishes to cut back on search from a wide group of advisors. Furthermore, both outstanding executives and controls reported in response to the same question a large number of kinds of informal advisors²¹ (averaging 1.1 categories of informal advisor per respondent) whom the executive could go to for one-on-one advice on an as-needed basis but doesn't need to consult if he or she wants to keep consultation more limited.

Second, two differences between how outstanding executives and controls organized their decision-making processes were the larger number of techniques outstanding executives used to encourage dissent than controls, and their greater tendency to bring in representatives of different points of view for a given decision rather than relying on the same advisors. We asked a question asking respondents to give specific examples of techniques they used to encourage dissent in their groups of advisors. Every respondent was able to give at least one specific example of a technique they used. However, outstanding executives mentioned a somewhat larger number – 1.6 per outstanding executive versus 1.2 for controls ($p=.29$). Similarly, in response to a closed-ended question asking subjects to describe their consultative style when making important decisions (on a 10-point scale from “bring in representatives of people in the organization with different points of view” rather

than limiting to bringing in only “my most-trusted staff,” outstanding executives had a mean score of 7.2, tending towards bringing in representatives with different viewpoints (compared to 5.8 for controls, $p=.28$). Again, this suggests greater attention to organizing for vigilance for the normal run of decisions, but can more easily be dialed down for decisions involving courage.

Both evoking a technique in a meeting to elicit dissent, or bringing in representatives of different points of view from the organization, correspond to a more vigilant decision-making approach. However, we note that use of both techniques is under the control of the executive, initiated by, and therefore under the control of, the executive to use or not on a case-by-case basis. The greater use of these approaches that outstanding executives report suggests a larger ability on their part vigilantly to dial up for the normal run of important decisions, while giving the executives an opportunity to dial down for decisions requiring courage. By contrast, if one’s main method of getting a wide range of information were simply to have a large group of advisors, dialing down becomes more difficult.

We also note that outstanding executives, although they agree with controls in valuing the information they get from senior civil servants (see Kelman et al. 2014 for examples), are somewhat more wary of their loyalty. Although most of both groups agreed with the closed-ended statement, on a 5-point scale, that senior civil servants would “fully support a decision I’ve made, even if it’s contrary to their advice,” outstanding executives were notably less-likely to agree than controls (2.3 vs. 1.1, $p=.03$).²² Given that civil servants may counsel caution, not courage, the somewhat greater wariness of outstanding executives about civil servant loyalty may make it easier for them to justify in their own minds keeping them out of decisions involving courage, where the executive needs to have his or her resolve strengthened and wants an unpopular decision

loyally to be supported.

Limitations

In addition to limitations due to our small sample size and inability to observe actual decision making, one possible concern with our nomination process, suggested by a commenter on an earlier draft of this manuscript, might be that some might have been nominated as outstanding executives because they had made a visible, controversial, courageous decision putting the leader at great risk, especially if the decision worked out well. If this were true, it would suggest that we have overestimated the number of decisions involving courage our outstanding executives made, because they may have been chosen as such because they made such decisions. However, our examination of the outstanding executives’ most-difficult decisions suggests only one of the nine was particularly visible – it received widespread coverage in the trade press and occasioned the nominee receiving a major professional award (though neither the decision nor the award was covered in The Washington Post). One other nominee’s decision was moderately visible, with one short article in the business section of The Washington Post and a small number in the trade press, but the articles did not mention the nominee as the decision-maker. Thus, the vast majority of the courageous decisions we examined in our research would have been unknown to our nominators.

Implications for Research and Practice

We believe the decision-making literature has paid insufficient attention to difficult decisions involving courage compared to those involving complexity. We ourselves were surprised by the responses we received when we asked executives about their most-difficult decision. We believe we have made a contribution to decision-making theory by bringing together two literatures – on vigilant decision-making and on

workplace courage – that have not been considered together in the past. We have also drawn attention to the design of differentiated decision processes where the leader must deal with issues of courage rather than complexity. Researchers and practitioners need to learn more about, whether, and how, successful executives discern between complexity and courage, as well as how they can successfully learn how to deal with both.

The most-difficult decisions described here do not rise to the level of those John F. Kennedy described in Profiles in Courage (1956), which discussed questions of national significance such as supporting a compromise over slavery that was highly unpopular among constituents to try to avoid civil war, or to oppose war crimes trials of Nazi leaders as violative of the rule of law. Instead, they represent what Lopez, O’Byrne & Petersen (2003: 185) call “extraordinary behavior in ordinary times.” Most-difficult decisions are not ones executives make all the time. But the fact that these are kinds of decisions occurring in ordinary organizational contexts rather than very rare decisions of earth-shattering significance makes thinking about how decision processes should be organized to deal with them more important for thinking about decision-making in organizations.

ENDNOTES

1. In this paper, we will use the phrase “vigilant decision-making.”
2. In Kelman et al. (2014), we present results regarding our initial question about the extent to which senior government executives use “vigilant” decision-making procedures.
3. For a more-detailed discussion, see ANONMIZED, which centers on findings regarding use of “vigilant” decision processes.
4. We recognize that a sharp distinction between a “leader” and “advisors,” suggesting the leader makes the decision and the advisors merely make suggestions, is stylized and somewhat oversimplified.
5. Our request for nominations to the NAPA Fellows/SAGE’s had a very low response rate of 5%. The low response rate increases the risk of random noise, which if it is occurring suggests the possibility of missing “genuinely” outstanding executives who happened not to get nominated. However, all outstanding executives were selected based either based on three or four luminary nominations (which required no or only one NAPA/SAGE nomination). There was only one individual who received one luminary and two NAPA/SAGE nominations, meaning the individual fell only one NAPA/SAGE vote short of being nominated as an outstanding executive, where randomness from small response rate might have played in.
6. We included occupants of these three positions in the military branches due to their large operating budgets.
7. We excluded assistant secretaries for Legislative and/or Public Affairs and general counsels.
8. “[D]ecision research has focused on the cognitive aspects of decision difficulty” (Luce, Bettman & Payne 1997: 384).
9. For a discussion of the IRR tests we performed on the transcripts as a whole, see Kelman et al. (2014).
10. The five decisions cited by controls that we classified as involving courage were ones to implement an unpopular regulatory or policy requirement (two cases), to accept harsh budget cuts in the organization over strong objections in the organization, to shut down a program that was an administration priority, and to discipline employees. Decisions by controls we classified as difficult because they involved complex information or tradeoffs included ones involving features of major IT systems and a policy decision requiring trading off the overall agency mission and the specific responsibilities of the organization headed.
11. This is similar to the account in Koerner (2014: 72.”), where 89 people in organizations described acts of workplace courage they had performed or observed. In 85 of the narratives,, “Phrases such as ‘do the right thing’ ‘stand up for what’s right’ and ‘make the right decision appeared.
12. Senior Executive Service
13. A larger proportion of controls (three of five) reported gathering information for making the decision. However, because numbers here are unusually small (only five controls with whom to compare outstanding executives), $p=.58$, so we cannot attribute any value to this difference.
14. How would information gathering and analysis for a complex decision have looked different? Take the example of the decisions (two of the nine by outstanding executives) to cancel programs that the executives concluded were poor investments. A decision involving program calculation we would characterize as involving complexity might have involved a situation where whether the investment made sense or not depended on future user uptake of the new system (about which one could make predictions but would involve a lot of uncertainty), or on what monetary value to assign to the time users gained by using the new system.
15. One outstanding executive, and one control, consulted the Deputy Secretary, but not for help making the decision, only to “sell” it after it had been (at least tentatively) made: .“The decision was right in my wheelhouse,

it was all about program management of software development pieces. I had actually kind of designed out what we were going to do for over a year before I came, not thinking about [the agency where I eventually came to work],, but about software management in general. I had that framework. To me, the getting to we’re going to make this decision really was a sales process.” (outstanding executive) We classify these decisions as having been made by the executive alone.

16. At a minimum, the kinds of decisions these executive described are emotional ones. A tradeoff between doing the right thing and the risk of aversive personal consequences -- as in general for decisions involving tradeoffs between “protected” and conventional values -- produces emotion surrounding the decision (Luce, Bettman & Payne 1997; 1999). When the decision requires infliction of pain on some, they are also emotionally difficult and even wrenching (Molinsky and Margolis 2005). We note that the one most-difficult decision an outstanding executive discussed that we categorize as involving complex tradeoffs was a decision involving a safety-money tradeoff. Even in this case, however, the tradeoff involved the organization’s own employees, and the account the executive gave made it clear that this decision was not just intellectually complex but (perhaps in the first instance) emotionally wrenching.

17. As noted earlier, this was true empirically for the decisions involving courage these executives discussed. For other decisions involving courage where the decision starts as complex but ends with a requirement for courage, this observation applies to that second stage.

18. There was a line of research forty years ago (e.g. Stoner1961) that purported to show that group deliberation tended to produce a “risky shift,” where the group became more willing to take risks than the mean individual in the group prior to group deliberations. On the view that courageous decisions are risky for the decision-maker, this might promote courageous decisions. However, findings turned out to be far-more ambiguous than originally thought, and the line of research more or less vanished with little trace. Also, if the executive is initially more inclined to make a courageous decision than other group members, a “risky shift” might well not help.

19. In the experiment, subjects were more likely to purchase fruit salad over chocolate cake (the “should” versus “want” choice) when required before the choice to memorize a two-digit number, while requiring them to memorize a seven-digit number produced increased purchase of the cake.

20. We discuss here all those differences arguably relevant to the issue of an executive’s ability to be ambidextrous. The small number of differences we do not believe relevant are ignored here. For a complete discussion of all differences, see Kelman et al. (2014). We present p values for these differences (using Fisher’s exact chi-squared test , two-tailed) some of which, as we shall see, actually did attain conventional statistical significance levels. However, our sample size is too small to give statistical significance testing much of a chance. We believe presenting p-values is more useful than not. There is a growing body of literature (e.g. Schwab, Abrahamson, Starbuck & Fidler 2011) criticizing drawing hard lines at p values of .05 or .1. We note that if the p-value of a difference between outstanding executives and controls is .35 – way short of conventional significance levels – there is about a two in three chance that the difference really exists. If it is impossible to gather data of the kind we have for large samples, which we believe it is,, then the practical choice for researchers is either to present results that are more likely than not to be true, with the appropriate caveats, or to refrain from drawing any conclusions at all, however tentative. As a matter of research methodology we believe the former choice is a better one.

21. These were sources of information categorized as peers within the larger department in which they worked, peers from other organizations in government, external advisors/old friends, and subject-matter experts inside the executive’s own organization. For a further discussion, see Kelman et al. 2014.

22. These responses are only for executives who themselves had not been career civil servants before assuming their current job.

REFERENCES

- Bazerman, Max H., and Don Moore. 2012. *Judgment in managerial decision making*. 8th Ed. ed. Hoboken, NJ: John Wiley & Sons, Inc.
- Braybrooke, David, and Charles E. Lindblom. 1963. *A strategy of decision: Policy evaluation as a social process*. 1963: The Free Press.
- Burris, Ethan R. 2012. The risks and rewards of speaking up: Managerial responses to employee voice. *Academy of Management Journal* 55 (4) (08): 851-75.
- Committee on Homeland Security and Governmental Affairs. 2008. *United states government policy and supporting positions (commonly known as "the plum book")*. Washington, DC: U.S. Government Printing Office.
- Dudley, Nicole M., Karin A. Orvis, Justin E. Lebiecki, and José M. Cortina. 2006. A meta-analytic investigation of conscientiousness in the prediction of job performance: examining the intercorrelations and the incremental validity of narrow traits. *Journal of Applied Psychology* 91 (1): 40.
- Grant, Adam M. 2012. Leading with meaning: beneficiary contact prosocial impact, and the performance effects of transformational leadership. *Academy of Management Journal*. 55 (2): 458-476.
- George, Alexander L. 1974. Adaptation to stress in political decision making: The individual, small group, and organizational contexts. In *Coping and adaptation.*, eds. George V. Coelho, David A. Hamburg and John E. Adams, 176-245. New York: Basic Books.
- . 1972. The case for multiple advocacy in making foreign policy. *American Political Science Review* 66 (3) (September): 751-85.
- Gino, Francesca, Shahar Ayal, and Dan Ariely. 2009. Contagion and differentiation in unethical behavior: The effect of one bad apple on the barrel. *Psychological Science* 20 (3): 393-8.
- Hannah, Sean T., Bruce J. Avolio, and Fred O. Walumbwa. 2011. Relationships between authentic leadership, moral courage, and ethical and pro-social behaviors. *Business Ethics Quarterly* 21 (4) (October): 555-78.
- Janis, Irving L. 1989. *Crucial decisions: Leadership in policymaking and crisis management*. New York: The Free Press.
- . 1982. *Groupthink*. Boston: Houghton Mifflin.
- Jehn, Karen A., Gregory B. Northcraft, and Margaret A. Neale. 1999. Why differences make a difference: A field study of diversity, conflict, and performance in workgroups. *Administrative Science Quarterly* 44 (4): 741-63.
- Kahneman, D. 2011. *Thinking, fast and slow*. New York: Farrar, Strauss, and Giroux.
- Kelman, S. and J. Myers. 2011. Successfully achieving ambitious goals in government: an empirical analysis. *The American Review of Public Administration* 41(3): 235-262.
- Kelman, S., R. Sanders, G. Pandit, and S. Taylor. 2014. "Tell it like it is": Groupthink, decisiveness, and decision-making among U.S. federal subcabinet executives. Unpublished paper.
- Landis, J. R., and G. G. Koch. 1977. The measurement of observer agreement for categorical data. *Biometrics* 33 : 159-74.
- Loe, Terry W., Linda Ferrel, and Phylis Mansfield. 2000. A review of empirical studies assessing ethical decision making in business. *Journal of Business Ethics* 25 : 185-204.

- Lord, Charles G., Lee Ross, and Mark R. Lepper. 1979. Biased assimilation and attitude polarization: The effects of prior theories on subsequently considered evidence. *Journal of Personality and Social Psychology* 37 (11): 2098-109.
- Lorge, Irving, David Fox, Joel Davitz, and Marlin Brenner. 1958. A survey of studies contrasting the quality of group performance and individual performance, 1920 - 1957. *Psychological Bulletin* 55 (6): 337-72.
- Maier, Norman R. F., and Allen R. Solem. 1952. The contribution of a discussion leader to the quality of group thinking: The effective use of minority opinions. *Human Relations* 5 : 277-88.
- March, James G., and Herbert A. Simon. 1958. *Organizations*. New York: Wiley.
- Mayer, David M., Samir Nurmohamed, Linda Klebe Treviño, Debra L. Shapiro, and Marshall Schminke. 2013. Encouraging employees to report unethical conduct internally: It takes a village. *Organizational Behavior and Human Decision Processes* 121 : 89-103.
- Molinsky, Andrew L., Adam M. Grant, and Joshua D. Margolis. 2012. The bedside manner of homo economicus: How and why priming and economic schema reduces compassion. *Organizational Behavior and Human Decision Processes*. 119. 27-37.
- Molinsky, Andrew, and Joshua Margolis. 2005. Necessary evils and interpersonal sensitivity in organizations. *Academy of Management Review* 30 (2): 245-268.
- Nemeth, Charlan J. 1986. Differential contributions of majority and minority influence. *Psychological Review* 93 (1);, 23-32
- Nutt, Paul C. 1989. *Making tough decisions: Tactics for improving managerial decision making*. San Francisco, CA: Jossey-Bass Publishers.
- O'Reilly, Charles A., and Michael L. Tushman. 2008. Ambidexterity as a dynamic capability: Resolving the Innovator's dilemma. *Research in Organizational Behavior* 28 : 185-206.
- Ross, Lee, Mark R. Lepper, and Michael Hubbard. 1975. Perversance in self-perception and social perception: Biased attributional processes in the debriefing paradigm. *Journal of Personality and Social Psychology* 32 (5): 880-92.
- Sim, Julius and Chris C. Wright. 2005. The Kappa statistic in reliability studies: Use, interpretation, and sample size requirements. *Physical Therapy* 85 (3): 257-268.
- Spranca, Mark, Elisa Minsk, and Jonathan Baron. 1991. Omission and commission in judgment and choice. *Journal of Experimental Social Psychology* 27 (1): 76-105.
- Stern, Eric K., and Bengt Sundelius. 1997. Understanding small group decisions in foreign policy: Process diagnosis and research procedure. In *Beyond groupthink: Political group dynamics and foreign policy-making.*, eds. Paul 't Hart, Eric K. Stern and Bengt Sundelius, 123-150. Ann Arbor, MI: University of Michigan Press.
- 't Hart, Paul, Eric K. Stern, and Bengt Sundelius. 1997. Foreign policy-making at the top: Political group dynamics. In *Beyond groupthink: Political group dynamics and foreign policy-making.*, eds. Paul 't Hart, Eric K. Stern and Bengt Sundelius, 3-34. Ann Arbor, MI: University of Michigan Press.
- Tetlock, Philip E., Randall S. Peterson, Charles McGuire, Shi-jie Chang, and Peter Feld. 1992. Assessing political group dynamics: A test of the groupthink model. *Journal of Personality and Social Psychology* 63 (3): 403-25.
- Torrance, E. P. 1959. The influence of the experienced members of small groups on the behavior of the inexperienced. *Journal of Social Psychology* 49 : 249-57.

Yaniv, Ilan. 2004. The benefit of additional opinions. *Current Directions in Psychological Science* 13 (2): 75-8.

Zhong, Chen-Bo. 2011. The ethical dangers of deliberative decision making. *Administrative Science Quarterly*. 56: (1).
1-25