

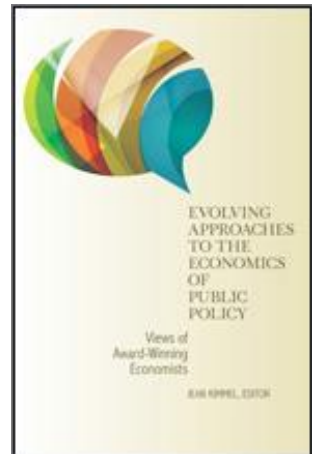
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# Motivating Consummate Effort

David M. Kreps  
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Chapter 5 (pp. 93-144) in:

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**Evolving Approaches to the  
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**Views of Award-Winning Economists**

Jean Kimmel  
*Editor*

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## 5

# Motivating Consummate Effort

David M. Kreps  
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What is the best way to motivate consummate effort?

By “consummate effort,” I mean effort undertaken by a worker within an organization that goes well beyond any nominal job description, in a manner that is desired by the organization, at a job that has some if not all of the following characteristics:

- The individual worker must attend to several different tasks and must allocate her time among them.
- The tasks to be done are, *ex ante*, ambiguous. What to do next involves the results of work done so far and the resolution of environmental uncertainty, in ways that neither the worker nor her supervisors can anticipate initially.
- The tasks involve creativity by the worker or, at least, thinking and then acting “outside the box” on occasion.
- Outcomes are hard to describe, let alone measure, in the short run.
- Insofar as outcomes *can* be measured, they are the result of the efforts of multiple workers.
- Cooperation among workers is important to the organization.
- The worker has substantial effective autonomy; the technology is such that she makes on-the-job choices with little supervision or even guidance from her supervisors.

For lack of a better term, let me call such jobs Type-K jobs, for Knowledge (or Knowledge Worker). Such jobs are particularly prevalent in organizations in the so-called new economy. But even in the old economy of manufacture, a firm that employs high-commitment human-resource management (see Baron and Kreps [1999], Chap-

ter 9) will have workers assigned to jobs with at least some of these characteristics. Therefore, the question that leads off this chapter is of importance, both to practicing managers who wish to be successful and to economists (and other social scientists) who wish to understand the practice-performance link in both new-economy organizations and organizations that embrace high-commitment human resources (HR).

Unhappily, the dominant economic theory of motivation— incentive theory, a.k.a. agency theory—is of little help. Or, more accurately, agency theory is of negative help. Starting from the basic agency-theory model—i.e., rewards for (apparent) performance that balance effort and risk aversion (Grossman and Hart 1983; Holmstrom 1979)—analyses of job models that incorporate some Type-K characteristics generally come to the conclusion that rewards-for-performance will be ineffective.<sup>1</sup>

Let me be clear here: I'm not saying that mainstream economics cannot explain how to motivate consummate effort. But, at least as formulated in much of the literature, it tells us that, for Type-K jobs, schemes based on pay (and other forms of tangible personal rewards) for performance as measured by outcomes are difficult to get right and, if gotten right, expensive for the level of motivation provided.

So, what are the alternatives? Social psychologists propose a number of motivational channels beyond tangible personal rewards, and they offer theories as to how effective these channels are. Inspired by their theories, I report some survey data in which successful executives are (essentially) asked to give their impressions about what is the best way to motivate consummate effort. After a brief recounting of two things—1) various psychological theories of motivation and 2) some data on human resource management (HRM) practices in high-tech start-ups—I compare and contrast how an economist and a social psychologist might explain these data. Many of the perspectives I attribute to the psychologist can be incorporated into economics, but one important feature of some psychological theories—the notion that, in terms an economist would use, employee preferences are malleable—goes beyond orthodox economic theory. I close by arguing that this important feature of real-life motivation of consummate effort should become part of economic orthodoxy.

## SOME MOTIVATING SURVEY DATA

The ideal research strategy to address the opening question of this chapter, on how to motivate consummate effort, is (probably) to conduct controlled field experiments. But organizations are rarely willing to allow social scientists to experiment in a controlled fashion with the motivational channels the organizations employ.<sup>2</sup> So, bearing in mind the many deficiencies of retrospective survey research, we can instead ask successful managers how effective (in their view) are some possible alternatives.

Each summer for the past 15 years or so, I've surveyed the participants of the Stanford Executive Program (SEP) on this matter. The SEP is a six-week general-management program, typically bringing to Stanford between 120 and 160 top-level executives.<sup>3</sup> The summer of 2013 was fairly typical: of 158 participants, 124 responded to my survey. Table 5.1 gives some demographics volunteered by the 124 respondents, but here are some quick summary statistics: The participants are from around the world, with 20 to 30 percent each from three areas: 1) the United States and Canada, 2) Europe, and 3) East and South Asia. The median age is around 45. Most (85 percent) are men. About half hold ranks in their home institutions of chair or chief executive officer, chief operating officer, or head of a staff function; the rest are less senior (but, we infer, are rising in their organizations, since their organizations paid the exorbitant fees that Stanford charges participants).<sup>4</sup> Functionally, half consider themselves to be general managers, with the rest in a variety of specialized functions (only 2.4 percent are in HRM). And they come from a variety of different industries.

The survey has several parts, but the part of immediate interest begins with the following prologue: "The next five questions concern what motivates 'best work' or 'consummate effort' in your organization back home. To be clear, by 'best work' or 'consummate effort,' I mean effort that goes above and beyond the nominal specs of the job. I'm interested both in what motivates you and in what motivates your direct reports, and in this part of the survey, I am interested in the following sorts of motivators:

**Table 5.1 Demographics of the SEP Participants Who Filled Out the Survey**

	<i>n</i>	%
<b>Home location</b>		
United States/Canada	31	25.0
Latin America	10	8.1
Europe	37	29.8
East or South Asia	27	21.8
Africa/Middle East	4	3.2
Australia/New Zealand/Pacific Islands	15	12.1
<b>Age</b>		
Less than 40	18	14.5
40 to 44	45	36.3
45 to 49	35	28.2
50 and older	26	21.0
<b>Sex</b>		
Men	105	84.7
Women	19	15.3
<b>Rank</b>		
Chair/CEO/managing partner/president	25	20.2
COO	11	8.9
Head of a staff function: CFO/CPO/CIO/etc.	26	21.0
Senior VP/senior partner	14	11.3
VP/partner	23	18.5
General manager	25	20.2
<b>Functional field</b>		
General management	54	43.5
Finance	15	12.1
Accounting	2	1.6
Marketing	9	7.3
Operations/production/manufacturing	10	8.1
Information technology	5	4.0
Human resource management	3	2.4
Strategic planning	8	6.5
Other	18	14.5
<b>Industry</b>		
Financial services/investments	17	13.7
IT/Electronics/computer technology	27	21.8
Manufacturing/construction	24	19.4
Health care/pharma/biotech	2	1.6
Marketing/retail	12	9.7
Public sector	6	4.8
Consulting/advisory/education	5	4.0
Other	31	25.0

SOURCE: Author's compilation.

- a direct connection between providing consummate effort and tangible rewards for the individual, such as higher pay, better promotion prospects, higher status, and so forth
- work that is personally interesting and exciting
- a direct connection between providing consummate effort and success for the organization (or work group)
- work that contributes to society, transcending both the personal interests and rewards of the individual doing the work and the well-being of associates and the organization for which the individual works.

Then, concerning these four motivational channels, I ask four questions:

- 1) How effective are each of the four motivational channels in motivating the best work of the people that report to you? The survey provides respondents with a five-point scale on which to respond: “Not at all effective”; “Of limited effectiveness”; “Effective, but not very effective”; “Very effective”; and “Only this is effective for eliciting best work.”
- 2) Which of the following statements is most descriptive of what motivates the best work of your direct reports?
  - They do their best work when they perceive a direct connection between providing consummate effort and personal rewards for them.
  - They do their best work when the work is personally interesting and exciting.
  - They do their best work when they see a direct connection between their consummate effort and success for the organization.
  - They do their best work when their work contributes to society, transcending . . . both the personal interests and rewards of the individual doing the work and the well-being of associates and the organization for which the individual works.
- 3) This question is the same as Question 1 but asked in terms of motivating the respondent’s own best work.



- 4) The final question reprises Question 2 but, as in Question 3, in the context of motivating the respondent's own best work.

Of course, we have no guarantee that the jobs of either the SEP participants or those who report directly to them are Type-K jobs. But because the participants are generally members of upper management in their organizations, as are their direct reports, I believe it is safe to assume that most of the jobs have some if not all of the characteristics of a Type-K job. Be that as it may, the responses collected are shown in Table 5.2. Note that the upper half of the table contains the answers given to Questions 1 and 2—that is, answers concerning the respondents' perceptions of their direct reports. It also gives mean scores for answers to the first question, averaging over all responses, where “Not at all effective” = 1, “Of limited effectiveness” = 2, and so on. And, in similar format, the bottom half gives the responses for Questions 3 and 4—i.e., for the respondent's own sense of what motivates him or her.

There is a lot going on in these data (some of which concerns correlations in responses, which I'll get to in a bit), but here are a few (relevant) highlights:

- The economic theory of incentives is best represented by the tangible rewards responses, and while tangible rewards as a motivational device are perceived as having some power, they are certainly not the be-all and end-all of motivational channels: over 40 percent of respondents say that when it comes to motivating their direct reports or themselves, tangible rewards are less than “very effective.” Moreover, tangible rewards as motivator are “most descriptive” (of the four channels) around 20 percent of the time for the direct reports and 10 percent of the time for “own motivation.”
- In contrast, for direct reports, exciting work as a motivator is perceived as being at least “very effective” by nearly 80 percent of the respondents; for the respondents themselves, exciting work is at least “very effective” for nearly 85 percent. And exciting work wins as “most descriptive” in both halves of the survey.
- Motivation by success of the organization is perceived to be especially effective for the respondents themselves, being “very effective” or better in 90 percent of the cases.

**Table 5.2 Responses to the Survey on Motivation by SEP Participants, 2013**

*What motivates best work by the people who report directly to you?*

<i>(n = 124)</i>	Not at all effective (%)	Of limited effectiveness (%)	Effective, but not very effective (%)	Very effective (%)	Only this is effective for eliciting best work (%)	Mean score	Most descriptive ( <i>n = 123</i> ) (%)
Tangible rewards	0.8	8.9	32.3	54.0	4.0	3.52	21.1
Exciting work	0.0	1.6	9.7	78.2	10.5	3.98	40.7
Success of organization	0.0	3.2	30.6	53.2	12.9	3.76	24.4
Work is socially important	4.8	38.7	33.1	21.8	1.6	2.77	13.8

*And what motivates your own best work?*

<i>(n = 120, 121)</i>	Not at all effective (%)	Of limited effectiveness (%)	Effective, but not very effective (%)	Very effective (%)	Only this is effective for eliciting best work (%)	Mean score	Most descriptive ( <i>n = 123</i> ) (%)
Tangible rewards	0.8	12.5	28.3	55.0	3.3	3.48	10.8
Exciting work	0.0	0.0	5.8	79.3	14.9	4.09	33.3
Success of organization	0.0	0.8	9.2	63.3	26.7	4.16	32.5
Work is socially important	1.7	18.3	38.3	36.7	5.0	3.25	23.3

SOURCE: Author's compilation.

- Motivation by socially important work is seen by many respondents as being less effective in both halves of the survey than the other three motivational channels. However, nearly a quarter of the respondents saw socially important work as being “most descriptive” of what motivates them—more than double the number who saw tangible rewards as the most descriptive self-motivator.
- One expects that perceptions of what motivates oneself would be “nobler” than perceptions of what motivates others. We see some of this in the data: organizational success and socially important work are perceived as being more effective on self than on direct reports.<sup>5,6</sup>
- One might attribute this difference in perceptions to differences in rank in the organization: The more senior “self,” being higher in the organization and, presumably, older and wealthier, is better able to afford being motivated by the work, or by success of the organization, or by doing something regarded as socially important. If this is true, it should (presumably) show up in how the mean scores for self-motivation change as we move across the various demographic characteristics of the respondent. That is, chief executive officers (CEOs) or chairs should be less self-motivated (on average) by tangible rewards than are those respondents who identify as general manager. See Table 5.3; the data on mean scores don’t support this explanation, although the “most descriptive” data do, especially for the category of motivation by organizational success.
- There could also be some selection bias at work: the respondents chose to spend six weeks away from their homes, families, and jobs to take courses at Stanford University. While Stanford is a very nice place to spend six weeks in the summer and participants are treated extraordinarily well in terms of creature comforts, the cost of this program—both the dollar cost and the personal cost to the participant of being away from home and work for six weeks—is substantial. The participants, by choosing to attend the program despite its costs, are clearly indicating “unusual” aspects of their characters and preferences, which is (of course) the hallmark of sample selection bias.

- But, in line with the results of Heath (1999) (in which the selection bias explanation cannot be applied), I conjecture that these differences in the top and bottom halves of Table 5.2 reflect a misperception of what motivates either others or oneself or both. In fact, my prejudices (and they are just prejudices) are that there is misperception on both sides: the participants are somewhat “flattering” themselves as being more organizational- and social-minded than they really are, while they are being too harsh in this respect on their direct reports.
- More generally, we can wonder whether any of the demographic characteristics have a discernible impact on either the average scores or the percentages of the most effective channel, for self or for direct reports. See Tables 5.3 and 5.4 for the numbers; make of them what you will.<sup>7</sup>
- In due course, I’ll explain why, but for now let me stipulate that it is interesting to look at the correlations in how respondents answered Questions 1 and 3 and how they responded to Questions 2 and 4. For Question 1 versus Question 3, the correlation matrix is given in Table 5.5, Panel A. We see that the strength of motivator X on direct reports (as perceived by a respondent) is strongly correlated with the strength of X on self in all cases of X, while the mixed correlations (X on direct reports versus Y on self for  $X \neq Y$ ) are much less positive—and are, in many cases, negative. Panels B and C report on the internal correlations of answers to Question 1 and Question 3.

As for Questions 2 and 4, we can look, say, at the conditional frequency that X is most descriptive as the best motivator for self, given that it is most descriptive for direct reports, and compare this to the marginal frequencies. We get the following:

- For “Tangible rewards,” the conditional frequency is 25 percent, versus 11 percent on the margin.
- For “Exciting work,” the conditional frequency is 45 percent, versus 33 percent for the entire population. For “Success of organization,” the conditional frequency is 62 percent, versus 33 percent overall.

**Table 5.3 Cross-Tabulations of Mean Score for the Motivators and Percentages of “Most Descriptive” Motivator for Self against Demographic Characteristics**

	<i>n</i>	Average impact on five-point scale				% saying this is most effective			
		Tangible rewards	Interesting work	Organiz. Success	Social importance	Tangible rewards	Interesting work	Organiz. Success	Social importance
United States/Canada	27	3.67	4.94	3.96	3.00	18.5	33.3	25.9	22.2
Latin America	9	3.44	4.33	4.44	3.56	11.1	22.2	33.3	33.3
Europe	35	3.26	4.03	4.17	3.29	2.9	31.4	37.1	28.6
East or South Asia	24	3.46	4.13	4.33	3.50	12.5	33.3	25.0	29.2
Australia/New Zealand/Pacific Islands	14	3.57	4.07	4.00	2.93	14.3	28.6	42.9	14.3
Less than 40 years old	17	3.47	4.06	4.18	3.34	0.0	47.1	41.2	11.8
40 to 44 years old	39	3.72	4.21	4.03	3.00	15.4	38.5	35.9	10.3
45 to 49 years old	33	3.36	4.03	4.12	3.55	15.2	21.2	24.2	39.4
50 and older	24	3.21	4.00	4.38	3.21	4.2	25.0	33.3	37.5
Male	98	3.49	4.07	4.14	3.21	10.2	33.7	33.7	22.4
Female	15	3.33	4.20	4.20	3.53	13.3	20.0	26.7	40.0
Chair/CEO/managing partner/president	23	3.35	4.13	4.26	3.43	4.3	21.7	47.8	26.1
COO	11	3.45	4.09	4.18	3.36	0.0	45.5	45.5	9.1
Head of a staff function: CFO/CPO/ CIO/etc.	25	3.28	4.08	4.16	3.36	0.0	40.0	28.0	32.0
Senior VP/senior partner	13	3.54	4.08	4.00	3.15	30.8	15.4	23.1	30.8
VP/partner	19	3.89	3.95	4.05	3.16	15.8	36.8	31.6	15.8
General manager	22	3.41	4.18	4.18	3.05	18.2	31.8	22.7	27.3

General management	50	3.42	4.20	4.22	3.32	8.0	26.0	44.0	22.0
Finance	14	3.36	4.14	4.07	3.00	14.3	57.1	21.4	7.1
Marketing	7	3.29	4.14	4.00	3.29	14.3	28.6	14.3	42.9
Operations/production/manufacturing	9	3.78	3.78	4.00	2.78	11.1	55.6	22.2	11.1
Strategic planning	8	3.50	4.00	3.75	3.50	25.0	25.0	25.0	25.0
Other	16	3.69	3.88	4.25	3.06	12.5	31.3	31.3	25.0
Financial services/investments	16	3.75	4.44	4.38	3.19	0.0	50.0	37.5	12.5
IT/electronics/computer technology	24	3.42	3.96	4.08	3.42	16.7	12.5	25.0	45.8
Manufacturing/construction	22	3.50	4.14	4.14	2.86	13.6	36.4	22.7	27.3
Marketing/retail	12	3.58	4.00	4.17	3.58	16.7	8.3	58.3	16.7
Public sector	6	3.00	4.17	4.17	3.33	0.0	33.3	33.3	33.3
Other	28	3.46	4.00	4.11	3.25	10.7	42.9	32.1	14.3

NOTE: Only those characteristics for which there are six or more respondents are given. Please note carefully: the demographic characteristics are those of the respondent and not (necessarily) his or her direct reports.

SOURCE: Author's compilation.

**Table 5.4 Cross-Tabulations of Mean Score for the Motivators and Percentages of “Most Descriptive” Motivator for Direct Reports against Demographic Characteristics**

	<i>n</i>	Average impact on five-point scale				% saying this is most effective			
		Tangible rewards	Interesting work	Organiz. Success	Social importance	Tangible rewards	Interesting work	Organiz. Success	Social importance
United States/Canada	31	3.68	3.97	3.61	2.61	25.8	38.7	22.6	12.9
Latin America	11	3.73	4.27	3.91	3.00	10.0	50.0	20.0	20.0
Europe	38	3.39	3.89	3.76	2.58	10.5	39.5	36.8	13.2
East or South Asia	27	3.63	3.96	4.04	3.04	33.3	25.9	22.2	18.5
Australia/New Zealand/Pacific Islands	16	3.00	4.00	3.63	2.94	12.5	62.5	18.8	6.3
Less than 40 years old	18	3.50	3.83	3.72	2.56	16.7	55.6	22.2	5.6
40 to 44 years old	47	3.57	4.06	3.79	2.57	23.9	41.3	28.3	6.5
45 to 49 years old	35	3.40	3.91	3.66	3.11	20.0	31.4	25.7	22.9
50 and older	27	3.56	3.96	3.89	2.81	22.2	37.0	22.2	18.5
Male	108	3.52	3.94	3.79	2.71	23.1	39.8	25.9	11.1
Female	19	3.47	4.11	3.63	3.11	11.1	38.9	22.2	27.8
Chair/CEO/managing partner/president	25	3.48	4.04	3.76	2.76	16.0	40.0	24.0	20.0
COO	11	3.36	3.91	4.18	2.73	18.2	36.4	45.5	0.0
Head of a staff function: CFO/CPO/ CIO/etc.	28	3.32	3.96	3.75	2.89	21.4	46.4	21.4	10.7
Senior VP/senior partner	14	3.50	4.07	3.71	2.79	21.4	42.9	14.3	21.4
VP/partner	24	3.71	4.00	3.67	2.54	25.0	45.8	16.7	12.5
General manager	25	3.64	3.84	3.72	2.88	25.0	25.0	37.5	12.5

General management	55	3.53	4.02	3.80	2.69	18.5	38.9	27.8	14.8
Finance	16	3.56	3.88	3.56	2.56	31.3	50.0	18.8	0.0
Marketing	9	3.11	4.00	3.89	3.33	22.2	33.3	22.2	22.2
Operations/production/manufacturing	10	3.90	3.80	4.00	2.60	30.0	30.0	20.0	20.0
Strategic planning	8	3.50	3.88	3.25	3.00	25.0	50.0	0.0	25.0
Other	19	3.53	3.95	3.89	2.63	26.3	36.8	31.6	5.3
Financial services/investments	17	3.71	3.82	3.65	2.65	29.4	29.4	29.4	11.8
IT/electronics/computer technology	27	3.41	4.04	3.63	2.78	30.8	38.5	11.5	19.2
Manufacturing/construction	25	3.44	4.08	3.88	2.52	12.0	48.0	32.0	8.0
Marketing/retail	12	3.75	4.00	4.08	3.00	25.0	16.7	33.3	25.0
Public sector	6	2.83	4.00	3.67	3.17	33.3	33.3	0.0	33.3
Other	33	3.67	3.85	3.73	2.73	18.2	48.5	27.3	6.1

NOTE: Only those characteristics for which there are six or more respondents are given. Please note carefully: the demographic characteristics are those of the respondent and not (necessarily) his or her direct reports.

SOURCE: Author's compilation.



**Table 5.5 Correlations in Effectiveness of Different Channels on Direct Reports versus Self (Panel A), on Self versus Self (Panel B), and on Direct Reports versus Direct Reports (Panel C)**

Panel A: Correlations of score for self-motivation versus direct reports

		Score for self			
		Rewards	Exciting work	Success of organization	Work is socially important
Score for direct reports	Tangible rewards	0.515	0.153	0.001	-0.118
	Exciting work	-0.055	0.379	0.074	0.063
	Success of organization	-0.100	-0.102	0.437	0.103
	Work is socially important	-0.354	-0.057	-0.030	0.594

Panel B: Correlations of score for self-motivation versus self-motivation

		Score for self		
		Exciting work	Success of organization	Work is socially important
Score for self	Tangible rewards	0.007	-0.038	-0.300
	Exciting work		0.080	0.057
	Success of organization			0.249

Panel C: Correlations of score for direct-report motivation versus direct-report motivation

		Score for direct reports		
		Exciting work	Success of organization	Work is socially important
Score for direct reports	Tangible rewards	-0.076	-0.083	-0.362
	Exciting work		0.114	0.145
	Success of organization			0.252

SOURCE: Author’s compilation.

- For “Social importance,” while only 23 percent of the respondents said it was most descriptive of the best way to motivate themselves, a whopping 88 percent of those who said it was most descriptive of the best way to motivate their direct reports said the same for themselves.

There are some other interesting “descriptive statistics” buried in the data from this survey, but this is enough: I’m not going to claim that this is a scientifically conducted survey (but I will point out that the respondents took the survey long, long before they heard from me on any of these topics). But having run similar surveys on the SEP participants in previous summers, I’m confident that the main results (not those reported in Note 7) replicate themselves, at least for SEP participants. And I strongly hypothesize that they will be replicated for other groups of senior executives.<sup>8</sup>

I reiterate that retrospective survey data of this sort—in particular survey data on what respondents believe motivates them and their direct reports—should be taken with a large grain of salt. But in what follows, I take these descriptive statistics at face value and ask: What is driving them? And, since this is meant to be an essay in economics, how do we explain them (if at all) using economics?

Colleagues who are social psychologists have no problem explaining these data. Their explanations derive from various theories they have about motivation in general, theories that are generally unfamiliar to economists. So before giving their possible explanations of these data, and comparing those explanations to what an orthodox economist might say, I first briefly describe some of the psychological accounts of motivation, with special attention given to one of these, self-perception theory. Then I describe some further data gathered by colleagues of mine concerning the HR practices (and subsequent economic outcomes) of high-tech start-ups in Silicon Valley. And then I have these data discussed by a fictional economist and a fictional social psychologist.

## A FAST TOUR OF SOCIAL-PSYCHOLOGICAL ACCOUNTS OF MOTIVATION

*Economists like to show how things that seem different are really the same. Psychologists like to show how things that seem the same are really different.* —Dale Miller (professor, Stanford Graduate School of Business), in discussion with the author, 2014

Economics—or, at least, mainstream economics—is based on one model of human behavior: utility maximization. Hence, the dominant account in mainstream economics of motivation is incentive theory. The theory may be applied to a diverse array of (modeled) circumstances—to jobs where relative-performance evaluation is possible, or where the agent must attend to several tasks—but the basic model of behavior stays the same.

Psychologists—and, in particular, social psychologists who are concerned with work settings—have a number of distinct accounts of on-the-job motivation, based on what drives behavior. Some accounts involve conscious analysis and choice by the worker; others appeal more to subconscious and unconscious behaviors. My specific interest is in one particular account, called *self-perception theory*. But here is a quick tour of some of the other accounts:<sup>9</sup>

### Expectancy Theory

Expectancy theory presents a conscious-cognition model of how people decide what to do or how hard to work.

- The employee has expectations about whether effort or specific actions on her part will lead to the results that (she perceives) management wants. This is called *expectancy*.
- She has expectations concerning whether fulfilling what is perceived as management's desires will lead to rewards for herself. This is *instrumentality*.
- She attaches value to the rewards she thinks she may get. This is called *valence*.

The actions she will take are, roughly, those that maximize her chances of receiving the rewards that she values the most. Some formulations of this hypothesis try to make this prediction exact, by taking the product of the two probabilities times a measure of value of the prize. But we don't need anything so rigid. We simply note that, everything else being equal, she will take action A instead of B if she believes that A is more likely to lead to what she perceives as management's desires; she will take action C over D if she believes that the likely outcome of C is more likely to be rewarded; and she will take action E over F if the rewards associated with E are more valuable to her.

This is a theory about employee expectations.<sup>10</sup> Accordingly, the managerial implications of this theory begin with clarity:

- Clarity or transparency of what management desires and what will be the rewards the employee will receive if she performs well enhances instrumentality, hence helps to motivate desired behavior.
- While the theory emphasizes expectations, it is something of a necessary (but not sufficient) condition that employees can in fact achieve the desired outcomes. Beyond this, employees should *believe* that they are capable of achieving the outcomes management desires if they behave as desired, enhancing expectancy.
- The rewards that are on offer should be valued by the employees, enhancing valence. Note in this regard that insofar as employees engage in social comparisons or otherwise value procedural and distributive justice, rewards should be equitably awarded (see the subsection "Equity Theory," further on).
- Insofar as an employee's conscious expectations drive his or her behavior, management should keep close tabs on those expectations. And management should strive to understand what employees value, rather than assuming that it is monetary compensation.

Expectancy theory is illustrated by Tracy Kidder's classic book *The Soul of a New Machine* (Kidder 1981). The young engineers who were working on designing a next-generation computer (by designing both the hardware and the microcode that would run it) worked long hours, because they believed that this is what it would take to get the machine ready for market in the time required (expectancy). They were

convinced that this was what management wanted. They believed that if they succeeded in these terms, they would be allowed to work on yet another new machine (instrumentality)—what Kidder calls “pinball effects.” And, for reasons that we’ll try to explain later in this chapter, they valued the opportunity to work on a new machine (valence). This last part may seem mysterious: the story essentially is that they are willing to work incredibly hard for the opportunity to keep working incredibly hard. Why would they value that? It was *not* for any financial reward that they had been promised. So that is what remains to be explained.

### Goal-Setting Theory

Goal-setting theory is a version of expectancy theory in which the reward is achievement of some artificial goal: Management sets for the employees a goal to achieve, and, if certain conditions are met, achieving the goal is, for the employees, its own reward.

The acronym SMART as a modifier of the goals describes some of the conditions that should be met if goal setting is to be effective: The goal should be Specific (not vague), Measurable (you know when you get there and, along the way, you know when you are making progress toward the goal), Achievable (you should be able to get there), Relevant (the goal should “make sense” as something that is important to achieve), and Time-bound (the time it will take to achieve the goal should be relatively clear; “you’ll get there eventually” is not SMART).

In addition, goals should be somewhat challenging; if the employee is to feel a sense of satisfaction from achieving the goal, it can’t be something that requires little or no effort. (But, it can’t be so challenging that the individual doubts that she can achieve it.) And, at least in some accounts, the goal should be viewed as legitimate (which may be subsumed under Relevant); it *may* enhance perceptions of legitimacy to have the employee participate in the setting of her goals.

The notion that achieving a goal that has been set provides its own satisfaction seems quite reasonable to me, at least based on my own behavior (which, I hasten to add, is a terrible way to validate psychological theories; be assured that the proponents of this theory have backed it up with a lot of careful empirical work). But I have some issues with this theory when it comes to Type-K jobs. These issues are, roughly,

related to the multitasking issues that arise in the economic theory of incentives: When the employee's job involves several distinct tasks, how does one set a goal that encompasses all the tasks? Presumably, you set goals related to each task, but does that then cause the individual to allocate her time so as to increase her chances of meeting them all? And is that necessarily what the organization desires? Goal-setting theory (I'm told by colleagues) has been criticized along precisely these lines (although I haven't consumed the relevant literature yet). So my bottom line on goal setting is that I believe it can be a good, even powerful motivational tool *if* you can meet the requirements of SMART, plus challenge and legitimacy. But in some jobs and for some employees—for Type-K jobs, in particular—this isn't going to be easy.

### Equity Theory

Equity theory posits that employees are *demotivated* by inequitable distributions of rewards. Very roughly speaking, each employee looks at the ratio of the rewards received by herself and her fellow workers to her perception of how much she and they have contributed to the organization, and she is demotivated when those ratios are quite different from each other. In operationalizing this, “rewards” is broadly defined; we include not only financial compensation, but things like praise and recognition. And the hypothesized demotivation is meant to occur at both ends of the spectrum: someone who receives too much reward in proportion to her contributions feels shame or embarrassment and is demotivated, while someone who receives too little feels anger. In fact, according to this theory, someone whose ratio is in the middle will be demotivated, if she sees peer A with a much higher ratio than peer B.<sup>11</sup>

Variations on this basic theme involve

- a distinction between distributional and procedural equity—the first concerns the rewards actually received by the different employees, while the second concerns whether the process that determines rewards is judged to be fair, even if it sometimes produces results that seem skewed;
- social comparisons, where individuals in comparing the ratios for various employees tend to confine their attention to those who are socially similar to themselves;<sup>12</sup>

- the confounding effects of social distinctions: partners in, say, a law firm may be disproportionately rewarded relative to legal associates, but this may be “okay” if legal associates view their current efforts as moving them up to the ranks of partnership.

If you buy this theory, the obvious managerial implication is to engage in equitable rewards. But this is not always easy to do, because it is the perception by individuals of these ratios that is important in the theory, and perceptions of different employees about who is making what level of contribution do not always agree.

### **Reinforcement Theory**

In comparison with expectancy theory, goal-setting theory, and equity theory, reinforcement theory involves (perhaps!) less conscious forms of behavior. The term *operant conditioning* is used; behavior of a certain sort triggers a change in one’s “conditions.” If the change is a net positive, the form of behavior is strengthened; if the change is a net negative, the behavior is weakened.

- *Positive reinforcement* is where a valued behavior is rewarded, strengthening the behavior; e.g., if a rat pushes the appropriate lever, it gets food. So it “learns” to push the lever.
- In *negative reinforcement*, a desired behavior causes a negative condition to stop or lessen, also strengthening the behavior. Example: a rat is subjected to mild electrical shocks, which cease for a while if it pushes a lever. So it learns to push the lever.
- *Punishment* is where an undesirable behavior leads to a negative condition (the punishment), which lessens the undesirable behavior. Example: When a rat pushes a lever, it receives a shock. It learns not to push the lever.
- *Extinction* is where a (formerly desirable and now undesirable) behavior that previously was rewarded is no longer rewarded, lessening the behavior. Example: The rat in the positive reinforcement story suddenly finds that pushing the food lever no longer results in food. So it learns that it is no longer worthwhile to push the lever.

Note the parenthetical “(perhaps!)” in the first sentence of this section; I don’t know enough about the intelligence of rats to know whether a conscious connection is made, or whether the rat is just conditioned to push the lever.

Applied to employees, presumably the odds are higher that a conscious connection is made; my (perhaps uneducated) understanding is that the basic theory is agnostic as to whether the learned behavior is learned (or unlearned) through conscious reasoning or a less conscious process.

To be effective, reinforcement rewards (or punishments, or cessation of negative conditions) should be clearly connected to the behavior being strengthened or weakened. This means, for one thing, that the “rewards” should be temporally contiguous with the behavior—in employment settings, shorter review-and-reward periods would be better. Some accounts hold that, for job-related applications, the key to positive reinforcement is transparency—i.e., more information about what’s expected and what’s rewarded. This suggests that applications to on-the-job motivation are probably more of the conscious variety.

### **Self-Determination Theory**

In the theories explored so far, motivation is tied to external stimulus of some sort or other: In expectancy theory, behavior is consciously undertaken to fulfill what is perceived by the employee to be the organization’s desires, leading (one hopes) to a valued reward. Goal-setting theory, at least in employment contexts, seems to be rooted in the idea that a goal is set externally (although I imagine the theory works in similar fashion for self-set goals). In equity theory, rewards are determined by an external authority. In reinforcement theory, good behavior is rewarded and bad behavior punished by an external party.

Self-determination theory concerns motivation that, in contrast, is intrinsic to the individual. The individual acts in a particular way because she wants to do so, even absent external rewards or stimulus. In particular, the theory holds that the more an individual is likely to be self-motivated (hence perform better?), the greater are

- her ability to act with *autonomy*—the ability to control her own actions;



- her ability to gain and exhibit *competence*—to control the outcome and exhibit (if only to herself) her mastery of the situation; and
- her ability to be socially *related* to others—to interact with, be connected to, and to help others and be helped in turn.<sup>13</sup>

Essentially, the managerial implications are that, to enhance performance through intrinsic motivation, one should increase employee autonomy, give employees greater opportunities to enhance their skills and demonstrate competence with those skills, and increase a sense of “belonging” and “helping” others.

Given the problems in incentive systems that fit under the rubric of multitasking (and other problems in getting externally applied incentives “right”), intrinsic motivation might seem like a silver bullet (i.e., a simple and seemingly magical solution to a complicated problem) when it can be enlisted: the employee does the right thing, all by herself.

Of course, it isn’t that simple, which explains the parenthetical “(hence perform better?)” in the second paragraph of this section. An employee who is intrinsically motivated is motivated to do those things for which she has a lot of intrinsic motivation—that’s a tautology—which may or may not be the things that the organization desires her to do. If the employee’s intrinsic motivation aligns with what the organization wants, it can be the proverbial silver bullet mentioned a moment ago. But that’s a mighty big *if*. If employees come intrinsically motivated to do what the organization desires, great. But, in other cases, a key to enlisting intrinsic motivation is to find ways and means to get the employee’s intrinsically motivated behavior aligned with what the organization values. Which takes us to my favorite among the psychological accounts I discuss:

### **Self-Perception Theory**

Self-perception theory (Bem 1972) has a very different account of behavior from the usual utility maximization of economics; it is based on a process of retrospective justification leading to future behavior. The basic notion is that individuals sometimes (often?) act without having clearly defined objectives; after the action is taken, the individual looks for a “story” that explains why she acted as she did, and the story

she adopts affects her future behavior. If, for example, she justifies her efforts with the story that the work she did serves some social goal *and that she cares about achieving that goal*, then, in the future, her behavior will reflect enhanced care for that social goal.<sup>14</sup>

Consider the young engineers in *The Soul of a New Machine*. At first, perhaps, working long and onerous hours was no big deal; perhaps they were carried along by enthusiasm for a new project. But as they continued to work under exhausting and stressful conditions, they looked for a reason: How could they rationalize to themselves why they were doing this? They weren't going to be paid a big bonus if they succeeded, so that wasn't it. At least as Kidder tells the story, they didn't have a lot of affection for the firm for which they worked (although they did have affection for each other and for the leadership of their group). No particular social purpose was served by what they were doing. But a story that did scan for them is, they were working those onerous hours because the work itself was fun, interesting, and exciting. And, if they perceived that this was what had motivated them in the past, it becomes a piece of their "identity"; they perceive that the work *is* fun, hence they desire to continue to have the opportunity to do it. This fills in the missing piece of the expectancy-theory story of their behavior.

Employees in some cases will have a choice of how they rationalize their past behavior; depending on their choice, we get different values, hence different future behavior. Salience of a particular "story" makes it more likely to be the chosen rationale; hence, to the extent that management wishes to employ self-perception theory to its own ends, it should determine which story is the one it wants employees to embrace, and it should set conditions to make that story the most salient.

### **Primary Nursing at Beth Israel Hospital**

An anecdotal example illustrates how this process is meant to work, as well as problems it can cause. In the 1970s, Beth Israel Hospital in Boston embraced the then-new practice of primary nursing.<sup>15</sup> In primary nursing, each admitted patient (referred to here as "he") is assigned a primary nurse (a senior registered nurse [RN], referred to here as "she") from the floor or ward in which the patient will stay. Each nurse given such duties is, at any point in time, assigned as primary nurse for a small handful of patients—three would be a typical number. A patient's pri-

mary nurse is responsible for coordinating all care for the patient. When the patient is admitted, he meets with his assigned primary nurse, who takes the full history of the patient. When she is on duty, she performs most routine nursing duties for “her” patients. When off duty, she is still on call for her patients. She works closely with the admitting doctor and other docs and staff who might be providing services to the patient, but she is “in charge” (of course, in consultation with the admitting doc and attending specialists for decisions that require the approval of a physician); it is her name and not that of the doc that is on the patient’s bed. If a patient is readmitted to Beth Israel, every effort is made to assign to him the RN who was his primary nurse during his earlier stay. The culture strongly encourages her to make a personal connection with her patients and, indeed, to think of them as “hers.”

Nursing is, of course, a Type-K job.<sup>16</sup> Primary nursing, by encouraging a personal connection between a patient and his primary nurse, leads the nurse to internalize strongly the welfare of her patients, which in turn leads her to go above and beyond her normal duties in giving and securing the best possible care (in a caring manner) for them. The practice worked like a charm: Beth Israel gained a reputation in Boston as being the best hospital at which to be a patient because of the extraordinary level of care it provided; among RNs, it gained a reputation as the best hospital at which to work. A psychologist could appeal to self-determination theory to explain this outcome: primary nursing scores well in providing the RN with autonomy, by giving her opportunities to exhibit competence and to be socially related. And a psychologist could appeal to self-perception theory: over time, an RN, for whom primary nursing means hard work, attributes her efforts as “I really do care about the welfare of my patients,” which, going forward, lessens the cost and increases the personal benefit she perceives in going above and beyond the normal effort and hours.

This story has a less-than-happy ending.<sup>17</sup> Because a patient’s primary nurse was motivated first and foremost to help her patients, she directed care for them based on her perception of what was best for them. In the fee-for-service financial environment of the 1970s, this was not a major problem. But as insurance companies moved from fee-for-service to diagnosis-resource-group and capitation-based reimbursement schemes, Beth Israel, now called (following a merger with Deaconess Hospital) Beth Israel Deaconess Medical Center (BIDMC), faced

considerable financial pressure to cut costs. Primary nurses were asked to make “financially sensible” decisions about services provided to their patients; BIDMC considered schemes that would take this decision-making authority out of the hands of the RNs altogether or, at least, would make it a shared authority of all nurses on a floor or ward. The patient load placed on the primary nurses was increased; the ability of a primary nurse to make a personal connection with each of “her” patients was weakened. One can imagine that, given the culture of nursing that had built up over decades of primary nursing, this was far from easy.

### **The Undermining Effect: Does Extrinsic Motivation Drive Out Intrinsic Motivation?**

A well-established meme within psychological theories of motivation is that the imposition of extrinsic motivation can dull intrinsic motivation, to such an extent that valuable intrinsic motivation virtually disappears. A typically cited manifestation of this concerns blood donations: historically, donating blood has been done for no particular compensation, except (perhaps) the ability to draw on the blood bank, if a donor finds himself in need at some later date. At one point in England, blood banks, seeking to increase donations, decided to offer a small monetary payment for a donation, the idea being that people would be more likely to give blood if some extrinsic motivation was loaded on top of whatever intrinsic motivation caused people to give blood previously. But instead, blood donation rates decreased. Making a small payment for donations caused something adverse to happen to whatever was motivating folks to give blood previously.

Both self-determination and self-perception theory give accounts that can explain this. Taking self-determination theory first, it might be that autonomy is perceived as having been reduced, insofar as potential donors feel that the financial reward is an attempt to control their behavior. The sense of social relatedness may be reduced. Before the extrinsic payment was offered, donating one’s blood was a very social act; now it seems more of a market exchange, motivated by a desire for payment. And the sense that blood donation achieves something important and valued is, at least, shifted, on much the same grounds.

As for self-perception theory, loading on extrinsic rewards in a setting where individuals come with significant intrinsic motivation gives

the individual a number of “stories” to explain why she acted as she did. Before, perhaps she rationalized her behavior by attributing it to the enjoyment she takes from the task, or because she values the success of the organization and is willing to sacrifice her self-interest to some extent to help the organization succeed, or because she perceived that her efforts were helping to achieve some greater goal. Now, competing with her previously held self-perception is the story that she did it for the reward. Indeed, when the extrinsic reward is added, its novelty may enhance its salience. Hence her self-perceived reason for acting as she did changes, and now (perhaps) she strives to maximize her extrinsic rewards, and the silver bullet of intrinsic motivation is minimized. In a word, the extrinsic rewards *undermine* the intrinsic motivation she might have had; hence, this is called the *undermining effect*.<sup>18</sup>

A variation on undermining concerns the impact of extrinsic rewards on intrinsic motivation when the extrinsic rewards are removed. To give an example, many readers will know of work done by Roland Fryer and associates concerning the motivation of inner-city schoolchildren to achieve more in their studies; see, for instance, Fryer (2011). Much of the attention in this work has been on what a psychologist would think of as enhancing expectancy: rewards for grades worked less well in improving grades than did rewards for reading books, because the students were unclear on what to do to improve their grades. But also from a psychologist’s perspective, Fryer’s work raises questions about what will happen when the experiment ends. While his financial rewards for, say, reading books have worked in the short run, should we be concerned that the learned behavior by students is that you read for the financial rewards and not for pleasure or knowledge?

### **Attribution Theory and the Sad Tale of Company Z**

Self-perception theory is a subset of attribution theory. In the basic account of attribution theory, Person X observes Person Y taking some action A. Person X then tries to answer the question for herself: why did Y do A? She tries, in other words, to *attribute* Y’s action to some underlying motive M. And, having attributed the behavior to M, her expectations about future actions by Y are that Y will continue to act in ways that serve motive M. Self-perception theory, then, is attribution theory for the special case of  $X = Y$ .<sup>19</sup>

When X is distinct from Y, X's attributions about Y's motives can be extended to third parties, especially third parties who are, in X's view, similar to Y.<sup>20</sup> But, at least in some accounts, X's attributions about Y can affect X's self-perception.

The sad tale of Company Z illustrates this.<sup>21</sup> Company Z is a reasonably young company (on the order of five years old) that was founded to accomplish a "mission": to change the face of Industry I. Industry I provides services to various companies, but it does so in particularly opaque fashion: most clients of Industry I are in the dark when they shop for the services that firms in Industry I offer; they don't know where to find the best quality-to-price ratios for specific services that they require.

Company Z's mission is to change this by bringing transparency to Industry I. The firm hired both professionals who understand the intricacies of Industry I and professionals who design web-based information systems, and set for these two groups the task of designing accessible web-based tools that would allow the clients of Industry I to shop intelligently and knowledgeably.

Company Z paid these professionals submarket wages, giving them no stock options or other forms of incentive pay. And this all took place in a local labor economy where the professionals employed by Company Z had lots of outside opportunities. Nonetheless, Company Z got from its employees consummate effort, with minimal turnover. The reason: Company Z stressed the "mission" it was on, and it hired professionals who bought into this mission. "Changing the face of Industry I" became the strong motivator of these employees, a motivator that (according to self-perception theory) grew even stronger, as the professionals in Company Z could only justify their efforts with the attribution "I'm doing this because the mission is important to me." And the fact that employees of Company Z were surrounded by and interacted with peers, all of whom seemed to be acting for the same reason, further strengthened this effect.

Recently, Company Z has developed its product and, after some testing with a few lead clients, is seeking to sell the product broadly. This takes salespersons, and the leadership at Company Z decided that the mission demanded the best sales force they could find. The choice of company leaders was not salespersons who bought into the mission, but salespersons with proven track records of success in sales of related

products. Salespersons come from a professional culture whose members expect incentive pay in the form of commissions on sales made, with the further expectation of making a lot of money if they succeed. Since that is what it takes to get the best salespersons (i.e., those that have compiled the most successful track records in the past), that is what Company Z offered. The salespersons hired had base salaries higher than the salaries other professionals in the firm made, with incentive-pay possibilities that would lead to total compensation far in excess of what those other professionals could obtain.

Of course, to be effective, the salespersons had to interact with the other professionals, both to learn about Industry I and about how the product worked. And when the other professionals learned how much the salespersons were making, inevitable social comparisons were made, and the other professionals became demotivated. Indeed, the company's HR folks surveyed all employees to gauge satisfaction, and, department by department, the closer the staff in a department was to the sales staff (in terms of both social categories and frequency of interaction), the lower was their self-reported level of satisfaction.

Equity theory provides one simple account of what happened at Company Z: the other professionals looked at the ratios of contributions to compensation and saw blatant (distributive) inequities. But the attribution-theory account also provides an explanation: When surrounded by other employees, all of whom were mission-driven, the mission was a powerful motivator for each employee. When faced with (socially similar) employees who seemed to require personal rewards to motivate them, the previously mission-driven employees at Company Z began to question their own motivation.

## **THE STANFORD PROJECT ON EMERGING COMPANIES**

A second set of data will finish setting the table for the discussion to come between the psychologist and economist. These data come from the Stanford Project on Emerging Companies (SPEC).<sup>22</sup>

SPEC was a project conducted by three colleagues, James Baron, Diane Burton, and Michael Hannan. They assembled a sample of 154

high-tech start-ups in Silicon Valley and, through a combination of retrospective interviews and available financial data, tried to answer questions such as “What clusters of human-resource-management (HRM) practices are prevalent in these firms?” “What is the HRM practice-performance link?” and “How do changes in HRM practices (as the firms grow and evolve) affect performance?”

They started, through interviews with the firms’ founders, by identifying the founders’ HRM vision. They characterized what they learned from the interviews in terms of three questions and a set of answers. Then, based on the interviews with the founders, they chose for each question the answer that best fit what they had heard:

- 1) What was (the founder’s vision of) the basis of attachment of employees to the firm? Was it
  - a) love of the firm or coworkers,
  - b) the interesting and exciting work that the employee was doing, or
  - c) the money the employee received?
- 2) How were employees selected? Was it
  - a) on the basis of cultural fit,
  - b) based on the possession of skills needed to perform a list of immediately required tasks, or
  - c) based on the individual’s longer-run potential to contribute?
- 3) How were employees coordinated or controlled? Was it
  - a) by adherence to professional norms of appropriate behavior,
  - b) by adherence to a set of organizational norms specific to the firm,
  - c) by adherence to a set of formal rules and procedures, or
  - d) by direct oversight by one’s superior?

This gives  $3 \times 3 \times 4 = 36$  different “founding visions” or models for the start-ups. The data revealed that nearly 60 percent of the 154 firms in the sample conformed to one of only five models, with characteristics and names (given by the researchers) as shown in Table 5.6. The most



**Table 5.6 The Five “Pure Type” Models from the Stanford Project on Emerging Companies**

Name of model	Dimensions		
	Attachment	Selection	Control method
Engineering	Work	Skills	Organizational norms
Commitment	Love	Fit	Organizational norms
Star	Work	Potential	Professional norms
Bureaucracy	Work	Skills	Formal rules
Autocracy	Money	Skills	Direct

SOURCE: Author’s compilation.

popular by far was the Engineering model, accounting for 32.5 percent of the firms.<sup>23</sup> But both the Commitment and Star models appeared frequently: 7.1 percent of the firms were Commitment model firms; 8.4 percent were Star model firms.

These five “pure types” or models were created in part based on the data, but also because they conformed to the researchers’ sense of bundles of HRM practices that are internally consistent. Following the work of Milgrom and Roberts (1990), the term *complementary* might be used, but the complementarity here is at least as much psychological as technological: the idea is that employees at a firm adhering to one of these five types would see the different practices as conforming to common organizational models; e.g., the Commitment model resembles a family, the Star model an academic department at an elite university.

The SPEC research explores a number of questions with this typology as a starting point; for instance, it looks at how the initial (or founder’s) vision influenced the evolution of HRM practices. But two questions addressed by this research will come into play in the dialogue of the next section:

- 1) What correlations did the research find between the founder’s vision and the product strategies of the firm?
- 2) Did the founder’s vision have any effect (on average) on the subsequent financial performance of the firm?

## A PSYCHOLOGIST AND AN ECONOMIST DISCUSS THE SURVEY DATA, COMPANY Z, SPEC, AND MORE

We can now listen in as a (fictional) psychologist (P) and an (equally fictional) orthodox economist (E) discuss the survey results and related matters. Since (I assume) most readers of this chapter will be economists, I will have the psychologist use terms that are not typically in a psychologist's standard vocabulary but that "translate" into the language spoken by economists.

- P: The data from the SEP survey are not in the least bit surprising. People can be motivated in many different ways, so I'm not surprised that we see as much variation in the answers as we do. But surely these data are surprising to an economist like you. Doesn't economics hold that only money (and perhaps power) can motivate people, since that is the only thing they value?
- E: That's a bad misreading of what economics says. Economics is based on the idea that people act in a way that maximizes their "utility." But many arguments can enter into an individual's utility function in a positive way (that is, with a positive partial derivative), including the joy of working on a challenging problem, a desire to see one's team or organization succeed, or the achievement of some goal that is socially valuable.
- P: I don't remember those sorts of things in the utility functions in my old economics textbooks.
- E: It's true that textbook models tend to emphasize money or, even more fundamentally, goods that are literally consumed. But that's just textbook stuff, done to keep the story simple. Utility is a reflection of what the individual values, and no one can deny that different people value different things. Economists even have a bit of Latin to describe the situation: *De gustibus non disputandum est* ("There is no arguing about tastes").
- P: Okay, I'll accept that. But not everyone values challenging problems or success of the organization or contributing to social good, while surely almost everyone values more income and other forms of tangible, personal rewards. So why don't all these high-powered execs

see tangible rewards as the best all-purpose way to motivate their direct reports?

E: That's a good question, and the answer is actually provided by the economic theory of incentives. If we are talking about Type-K jobs, all those characteristics that make for a Type-K job are characteristics that make "pay for performance"-style incentives hard to devise and ineffective in practice. *If* you can find another way to motivate workers, a way that avoids some of the problems with pay-for-performance schemes, that other way may well be superior in terms of motivational bang for the buck.

Let me give you a "for instance." Two of the characteristics of a Type-K job are 1) what economists call multitasking—the need for the worker to do several things and to allocate her time among the tasks—and 2) outcomes that are hard to measure or can only be measured in the somewhat distant future. Both of these characteristics can be killing to a pay-for-performance incentive scheme.<sup>24</sup> Now suppose—and it is a strong supposition—the individual worker has a good sense of what she *should* be doing from the perspective of the organization at the time that she must take action; that is, she knows what sorts of efforts are in the best interests of the organization, including her allocation of time among different activities. An employee who knows these things *and* who has internalized the welfare of the organization—who wants to see the organization succeed—will do the right thing (more or less) automatically, avoiding agency costs, *as long as the firm doesn't screw things up by trying to load an ill-fitting rewards-for-results scheme on top*. That is, even if this worker has a utility function that is much more responsive to personal rewards than to doing right by the firm, if her personal-rewards compensation is insensitive to measures of performance, she'll choose to do right by the firm. Of course, if the firm could find a personal-rewards incentive scheme that reinforced doing the right thing, that would improve matters. But the latter is hard to do (the theory tells us), so why not rely on the "second order" desire to see the firm succeed?

And, in this regard, note that there are two keys here: The individual must understand how her efforts connect with organizational success. And she must value the organization's success. The first of

these fits in well with how the survey phrased things: It asks for the relative efficacy in terms of motivation of establishing a direct connection between providing consummate effort and success for the organization. It isn't *just* an appeal to the employee to "do right by the organization." Implicitly it is that, but, explicitly, it is about being sure that the employee recognizes what that entails.

P: And the second key? Are we to believe that so many workers have internalized in their preferences the success of the organization for which they work? From my perspective, I believe that the organization can *foster* such preferences. But my sense is that *de gustibus*, when incanted by an economist, means that the tastes of each individual are innate and immutable; economics as a discipline takes them as a given. Do so many workers come with these innate preferences? And, if so, why do all those textbooks ignore what would be a powerful and common factor in workers' utility functions?

E: Well, remember that the population we're speaking of consists of SEP participants and their direct reports. These are all people pretty high up on the organizational ladder. Maybe what is going on here is that organizations, when deciding whom to promote into high positions, screen in particular for workers who have a track record of doing the right thing for the organization, which would favor people who do have the welfare of the organization as a powerful factor in their preferences.<sup>25</sup>

In this regard, I call your attention to the survey of Stanford MBA students, referenced in Note 7. They gave better scores (on average) to tangible rewards. They are younger and less senior. If my hypothesis is correct that the organization screens over time for people who value the welfare of the organization or interesting work, then as people are or are not put in positions of greater authority, you would expect that less screening has taken place for MBA students and their peers. Hence, on the margin, appealing to the universal desire for personal goodies becomes more effective.<sup>26</sup>

P: How about this? If the problem in Type-K jobs is that we don't know a priori what the employee should be doing—if we can't devise a formula a priori that will link outcomes to rewards—then surely, after the fact, the boss can ask "What did you do?" judge whether this was what was desired, and provide a monetary reward if what the

employee did was judged, ex post, to be “the right thing.” Doesn’t that sort of ex post evaluation coupled with tangible rewards get around the difficulties in designing ex ante incentive schemes for Type-K jobs?

- E: It would, *if* the boss can meet Conditions A, B, and C: A) discern what the employee did do ex post, B) know what the information state of the employee was when the employee made work choices, and C) *credibly* commit to rewarding “doing the right thing.” Each of those is somewhat problematic, but not entirely unreasonable. In a sense, what you are proposing is a scheme of *subjective ex post evaluation*, which has been studied in the economics literature; early papers include Prendergast and Topel (1993) and Baker, Gibbons, and Murphy (1994). But, as is very well known (and one of the main points in Prendergast and Topel), tangible reward schemes that are based on subjective ex post evaluation of performance invite what economists call *influence activities* and what you probably call *arguing or pleading one’s case, instead of getting on with productive work*. The more a job is Type-K, I believe, the less likely it is that Conditions A through C will hold, and the greater will be the cost of influence activities.<sup>27</sup>
- P: Let’s talk about Beth Israel Hospital, then. My explanation for the problems the hospital faces is that, through the practice of primary nursing, supervisors inculcated in their nurses a regard for the welfare of the nurses’ patients as primary. I guess, to use your terminology, I would say that Beth Israel increased the importance that that factor has in the utility functions of their nurses. Having done so, they have found it hard to “redirect” their nurses to balance what is ideal for the patient with what it costs the hospital.
- E: I’m not keen on this notion that the nurses’ preferences were somehow changed, but I’d offer a closely related explanation. The hard work associated with primary nursing for a nurse is a very effective screen. Only RNs who have tremendous innate concern for the well-being of their patients would put up with phone calls at 3:00 a.m. from a patient complaining about something or other. RNs without such a strong concern would look for work elsewhere. So, over the years, Beth Israel wound up with RNs with that sort of preference, and RNs with those sorts of preferences are *not* going to be very

good at the balancing act that is now required. Indeed, since I don't think preferences of an individual are malleable, I think BIDMC is in worse shape than do you: They are stuck with a nursing staff whose preferences don't fit the new economic realities. You, I gather, believe that, while it may take time and be painful, BIDMC may be able to "remake" its RNs' preferences to fit better with what those new realities require.

P: I certainly do believe that, although I'm not saying it will be easy. But let's move on. I'm pretty sure I know what you will say, but what do you make of the correlations found in the survey answers, as reported in Table 5.5 and in the discussion following that table? Before you answer, let me tell you how I view them. While I'd be happier if some of the negative correlations in the bottom parts of the table were even more negative, they fit quite well with how I see things. Take the top part of the table first. I think what we are seeing here is a strong organizational fixed effect. Some organizations employ tangible rewards as a motivational device. Others employ "love of work." And so forth. The SPEC data suggest as much, but I think that any level of casual empiricism would tell you that different organizations in similar situations employ different motivational channels. Since each SEP participant and his or her direct reports work in the same organization, whatever is viewed as a strong, or most descriptive, motivator for the direct reports is more likely to be a strong or most descriptive motivator for the respondent. Hence, in the top half of the table, strong positive correlations are found down the diagonal, and not much correlation or even negative correlation is found on all off-diagonals.

E: I agree with you that there is an organizational fixed effect here, and I think the ultimate explanation for it is equilibrium screening. If you are the sort of person who gets a lot of juice out of being a "member of the team," you join an organization that rewards behavior that is directed at team success. If you love to work on challenging problems, you join an organization that rewards its employees with challenge. Of course, this is an equilibrium phenomenon: Organization A attracts people who want to be part of a team and work for the team's success, so at Organization A, that becomes the most effective way to motivate the workforce it gets, which (to complete the loop) attracts the type of people who want to be part of a team.

P: Just what I expected you to say. I agree that what you call screening plays a role, but I'd go further: Once you join, say, your Organization A, with everyone around you doing stuff so that the team will succeed, your desire to do what is best for the team is enhanced, as per the attribution-theory extension of self-perception. Indeed, if the company "rewards" your efforts by celebrating the team's success, self-perception theory alone predicts that this motivating factor will be strengthened through time.

E: Let me ask you: The most negative off-diagonal entry is motivation by social importance for the direct reports, and motivation by tangible rewards for the respondents. How do your theories explain that?

P: To explain that, I want to look at Panels B and C of the table. Most of the correlations here are close to zero, with two exceptions: motivation by tangible rewards has substantial negative correlation with socially important work, and motivation by success of the organization is substantially positively correlated with socially important work. I admit, I'd like to have seen the close-to-zero entries be more negative. In part, this should have been built in to the way the survey was worded. The highest category of answer is "Only this is effective" for eliciting best work, and we see percentages of around 10 percent or more selecting this answer, at least for exciting work and success of the organization. The plain language of that answer should certainly imply that the respondent who picks this answer for one of the four motivational channels would give a very low score to the other three. But it turns out that this isn't how the respondents responded. I looked at the detailed data and found that the average score given to the other three motivational channels by someone who gave one of the four an "only this" rating was 3.34, versus an average score in the entire sample of 3.50. There is even one respondent who gave two of the four motivational channels an "only this" rating and the other two a "very effective."

But even without this—that is, even if the top category had been called "extremely effective," so that it was phrased in a way that didn't preclude high scores for the other motivational channels—I would have liked to see more negative correlations. My theories of motivation, and in particular self-perception, suggest that one motivational channel will be particularly effective if it is the sole

ex post rationalization available as to why individuals give consummate effort, which would then go along with low scores for the other channels. So I can't say that the data are what I'd want to see, ideally.

That said, I think the correlations in Panels B and C between tangible rewards and socially important work and between success of the organization and socially important work are, respectively, an extreme case of what I was hoping for and the results of an ambiguously worded survey. To explain: If I had to guess which of the four motivational channels are "furthest apart" in terms of basic motivational forces, I'd guess tangible rewards—the "What's in it for me?" motivation—and socially important work, or "What's in it for society?" So, being strongly motivated by one ought to go with being poorly motivated by the other. As for organizational success versus socially important work, I imagine that socially important work is a strong motivator in organizations whose mission is the accomplishment of some socially important goal. Indeed, the notion that a subset of organizations are "social purpose" organizations is quite consistent with socially important work getting low average scores but being characterized as "most powerful" or "descriptive" in a fraction of the organizations. Now, if your organization is built to achieve some social purpose, achieving that purpose and having your organization succeed are naturally confounded. Put it this way: if "success of the organization" had instead been worded as "financial viability" or "financial success" of the organization, the confounding would be less, and I'd expect those strong positive correlations to be smaller. And to get back to your question about the cross-correlations in Panel A, what we're seeing here is a consequence of what I just described.

So we agree that different organizations employ different motivational channels, and we agree that whichever channel is powerful for one employee in a given organization is relatively more likely to be more powerful for other employees in the same organization. You explain the last part by screening. I think it is something more—namely, the impact an organizational environment will have on the preferences of its employees. We also agree, I think, that different motivational channels are better or worse suited to specific jobs or, at the organizational level, to the constellation of tasks facing employees who are (and see themselves as) socially similar.



E: Uh, that last bit is a bit mysterious to me. What's this "constellation" stuff?

P: I can explain with an analogy. Oliver Williamson's *Economizing Principle*, in his theory of transaction-cost economics, says that a transaction will tend to be structured in whatever manner maximizes the benefits it creates, *net of its transaction costs*.<sup>28</sup> Williamson's focus is on different aspects of those transaction costs, which is fine. But his unit of analysis is the individual transaction. So if, say, Firm F is engaged in separate long-term transactions with Firms G1 and G2, we should (the principle says) look separately at the two transactions, trying to discern what structure is optimal for each one. But insofar as we think that G1 makes inferences about how F behaves and will behave in the future based on what G1 sees happening between F and G2 and vice versa, then that cognitive or informational link may mean that the structure of the F-G2 transaction should take into account the "externalities" it imposes on the costs and benefits of the F-G1 transaction.

For the same basic reason, how Firm X motivates Employee A1—and, more generally, how X treats A1 in all aspects of their relationship—can have an impact on the perceptions, assessments, and behavior of Employee A2, the more so to the extent that A2 is socially similar to A1. The attribution-theory extension of self-perception mentioned in conjunction with the story about Company Z is one example of this at work, but this is part and parcel of the full theory of social comparisons. And, turning this a bit on its head, suppose Firm X has two categories of employees: A1, A2, and so on are all engineers, while B1, B2, and so forth are clerical assistants. This sort of consideration will (probably) lead X to rely on the same motivational channels for all the A's. But X may be able to get away with a different sort of motivation altogether for the B's. So, when asking "Which motivational channel or method is best for motivating Employee A1?," you probably need to think at the level of the characteristics of the jobs of all the Type A employees.

E: Hmm. And since you posed the question, which motivational channel do you see as best for, say, engineers or other categories of employees in Type-K jobs? Incentive theory tells me when rewards-for-performance will work well—see for instance Lazear (2000)—

and it also tells me that it will be problematic for more complex, Type-K jobs. But the survey introduces three alternatives, and I'm sure there are more. Why and when would an organization choose interesting work instead of organizational success or social mission? If you think that through self-perception processes employees can be molded into whatever preferences the organization wishes [P shakes her head]—okay, I see that you don't believe that, quite—what makes one of those more or less fit? After all, that's the question posed at the start of this chapter.

P: I don't have a complete answer to that question, and I don't think you do, either. But SPEC gives us some alluring hypotheses. For one thing, the SPEC researchers looked at correlations between the firm's strategic objectives and the founder's HRM vision and, while the data set wasn't large enough to draw robust conclusions, they found that firms whose strategic plan was to be the low-cost producer of a more or less established product were much more likely in the sample to choose Bureaucracy. Firms that aimed at wide-open technological innovation—creating a novel product that met a “need” as yet unrecognized by the intended clientele—were very much the most likely to be Star-model organizations. And their data on financial performance give some clues: All five models were basically fit (in the situations in which they were chosen) in terms of financial outcomes; none dominated any other. But the Commitment model had a slight edge, on average and overall, and the Star model was best if you looked only at the subsample of firms that made it to the IPO. Here's a hypothesized explanation for this: Since, in these sorts of start-ups, key employees' jobs are likely to have a lot of Type-K to them, the silver bullet of motivating by “love” of the organization might have a slight edge, *if* you can make it work. But in the culture of Silicon Valley, with its very high rate of labor mobility, this might be a hard sell. Being motivated by challenging and exciting work probably comes more naturally to more of the young engineers and technology types that make up a large part of the key workforce at high-tech start-ups. But we all know stories of engineers whose drive for technological perfection gets in the way of the financial success of the organization; remember Voltaire's adage, “Better is the enemy of good.”<sup>29</sup> Star-type firms, where attachment or motivation through work is allied to professional and not organizational

norms, are at risk of having employees pursuing perfection when “good enough” is what they need for economic success. By looking only at the Star-type firms that reach the stage of an IPO, you are probably censoring out a lot of technological wins but economic failures; you are looking at cases where technological wins meant at least a measure of economic success—hence this subsample does best of all. So: Commitment is best overall, if you can pull it off. But censor out the cases of motivation-through-work that go off the rails, and you have a conditional winner.

E: Okay, I can see how to build an economic model of that sort. But let’s wrap up. What separates our views on the data?

P: We agree on a lot, but we disagree on one potentially important point. I think an individual employee’s sources of motivation will be affected—I might even say manipulated *to some perhaps limited extent*—by the organizational environment in which she finds herself. You seem to resist this; instead, you invoke screening to explain the connection between what motivates an employee and the type of organization in which she is found.

So I ask, how do you explain what happened at Firm Z? Employees previously motivated by the mission soured on this because of interactions they had with the sales force. Have you got a story for that?

E: I do indeed. I’ll explain their initial strong motivation by a desire to achieve the goal of changing Industry I *and* their belief that top management at Firm Z shared in that goal. When the salespersons were hired and compensated, the rest of the professional staff learned to their dismay that top management at Firm Z had been playing them—top management just wanted to make a lot of money. This did change their motivation, but through a shift in their beliefs, not a change in their tastes.

You would no doubt attribute changes in behavior associated with what you call the undermining effect to changes in tastes caused by a change in self-perception. [P nods in agreement.] Let me tell you how an economist views this. The basic story is this: Person Y (he) has been doing a task, and doing it well, for little to no financial reward. His boss, X (she), offers him some financial compensation if he will continue. And this causes him to stop or, at least, to do a more slipshod job.

Two economists, Bénabou and Tirole, provide two explanations for such behavior. In the first of these (Bénabou and Tirole 2003), the story is that X knows how hard the job is, and Y infers from the offer of financial compensation that, at least this time, the job is going to be a lot harder. Not wanting to kill himself, especially if the financial compensation is small, he decides not to do it. And in the second story (Bénabou and Tirole 2006), Y has been doing the job to convince X and others that he likes this sort of work for its own sake. When X offers him some financial compensation, doing the job is no longer a clear signal that Y is that sort of person—in the language of game theory, X’s offer has jammed the signal that Y was sending—so it is no longer worthwhile for Y to do the job.

Now, these are simplified caricatures of the two papers—you’ll need to read them to see the details—but in each case, what you explain by changing tastes is easily explained by strategic behavior and rational inferences, with a completely stable set of preferences.

P: Wow! Those are some pretty clever explanations. I might say to you that I find them a wee bit incredible, at least in the context in which the undermining effect was first discussed in the literature: the context there was nursery school children drawing detailed pictures, seemingly for the fun of it, whose motivation was undermined with the offer of cookies.<sup>30</sup>

But let me describe to you one other experiment that, it seems to me, can only be explained as a shift in tastes. This doesn’t concern motivation in a work setting, but it does seem to me to pose a challenge to anyone who believes in utterly stable preferences, tastes, or utility. The experiment is described in Liu and Aaker (2008). Subjects were told about a particular charity, then asked how likely it was that they would donate some of their time to work for the charity and how likely it was that they would donate money. Finally, they were given the opportunity to make a financial donation. (I’m simplifying a bit; read the paper!) There were two treatments: In one treatment, they were asked “How likely is it that you’d donate time to the charity?” and then “How likely is it that you’d donate money?” In the second treatment, the money-ask came first, then the time-ask. The dependent variable was the amount of money actually given, and Liu and Aaker find that in the time-ask-first treatment, subjects gave more on

average than in the money-ask-first treatment—statistically significantly more.<sup>31</sup> They explain this by saying that the question asked first creates a state of mind in the subject—it primes or frames the behavior that is later observed—and they explain why a time-ask-first primes the subjects to give more, when it comes time to give.

And I would observe that this phenomenon is not only some manifestation of a psych lab experiment. University development (fund-raising) departments are well aware that financial donations from alumni increase if and when the alums are first induced to give some of their time to their alma mater. For instance, the Stanford Graduate School of Business has alumni conduct interviews of prospective students. The information gathered in these interviews is not of zero value; only candidates with a high likelihood of admission are interviewed, and a really bad interview can turn acceptance into rejection. But for the most part, the admissions office does this as a favor to the development people.

Getting back to Liu and Aaker, maybe you can tell a story about how the first question asked provides some sort of information to the subjects, and how that changes their beliefs in a way that, in the first treatment, makes them conclude the charity is more worthwhile. Or something. But it seems to me that if both questions are asked—and both are asked—telling an information-inference-based story is going to be difficult. Preferences change. They can be manipulated, to some extent. And, in terms of what motivates consummate effort, this is probably a significant effect.

## **BUT IS IT ECONOMICS?**

Since I gave her most of the good lines and allowed her the final word,<sup>32</sup> I doubt that anyone will be surprised to learn that my sympathies in this discussion are with my imaginary psychologist. This isn't to say that the economist is incapable of explaining the data in the SEP survey with orthodox economic models. At the least, orthodox economics can do a good job with those data, *if* one permits employees to value interesting problems, to internalize the welfare of the team or organiza-

tion to which they belong, or to devote effort to improving the social weal. And while utility functions that have these sorts of things as arguments with positive partial derivatives are not exactly rampant in the literature, there is nothing unorthodox about them.

Indeed, I believe that a nice orthodox principal-agent model can be devised along these lines: Have a (possibly diverse) set of agents, all of whom are powerfully affected by their take-home pay, but all of whom also attach some weight to success of the organization. Give them Type-K jobs, with (say) multiple tasks, some of which can be judged in terms of outcomes only after a lot of time has passed or with a lot of noise. In these circumstances, the principal may well opt to avoid pay for performance, out of fear of getting it wrong, and let the agents' (even slight) desire to see their organization succeed provide motivation, as long as that desire is sufficient to overcome any "disutility of effort" on the part of the employee.<sup>33</sup>

But once we abandon the notion that each employee comes with time-consistent, present-at-birth preferences, we are (as far as I can judge) firmly doing unorthodox (heterodox?) economics. Mainstream economists have—for the most part—resisted enlisting models with changing tastes, preferring to explain phenomena while eschewing this modeling device. Witness, for instance, the characteristically ingenious pair of papers by Bénabou and Tirole (2003, 2006) that the fictitious economist cited.

"For the most part" does not mean "entirely," of course. Work of this general sort makes up a fair bit of so-called behavioral economics, dealing with time inconsistency that manifests itself as hyperbolic discounting. And Akerlof and Kranton have published papers and even a book (Akerlof and Kranton 2010) on what they call identity economics, which breaks the taboo against models with changing tastes.<sup>34</sup> But one might characterize such efforts as isolated brush fires in the vast forest of economic models, rather than as an increasingly encompassing conflagration.

A classic paper by Stigler and Becker (1977) makes the argument for the orthodox position. As a matter of mathematical fact, one can pose dynamic choice behavior that cannot be accommodated with a model of unchanging individual preferences; this concerns behavior in which the decision maker chooses to put constraints on the choices he will have available later, with no compensating improvement (and even

with a corresponding decrement) in what he consumes today.<sup>35</sup> But, Stigler and Becker argue, *empirically important* phenomena do not require this sort of modeling innovation. And, at least implicitly, they make the value judgment that this modeling innovation should be avoided if it can be.

I think the last step in this argument—the value judgment—is defective. The standard argument for modeling agents as utility-maximizing is an “as-if” argument: *if* the choice behavior of an agent satisfies certain properties, her choices are *as if* she is maximizing some utility function that maps her options into real numbers. Most microeconomic textbooks, at least at the graduate level, start with this result; see, for instance, Kreps (2013, Chapter 1). The required properties, though, are posed in the context of choice from opportunity sets (drawn from some larger set of all possible choices that might be made) at a single point in time. Talk of “unchanging preferences” concerns dynamic choice behavior, and while additional properties can be found that knit together choices made at different points in time and that then guarantee that dynamic choices are *as if* the agent had unchanging preferences,<sup>36</sup> those additional properties are even less reasonable empirically than the properties that give utility maximization as an as-if model for static choice.

Even if economists can devise clever models with unchanging preferences that account for some of the phenomena described in this chapter,<sup>37</sup> the models we employ to explore important empirical phenomena should be as simple and straightforward as we can make them, while being consistent with the phenomena. If the subject is motivating consummate effort in work settings, I believe the psychologist, backed up by her literature, makes a case for changing preferences that is very hard to dismiss. Economists should, instead, embrace these ideas.

## Notes

I am very grateful to Jennifer Aaker, Jim Baron, Frank Flynn, Deb Gruenfeld, Wendy Liu, and Dale Miller for their assistance in helping me understand social psychological approaches to motivation and related topics. Of course, any errors in translation or transcription that appear in this chapter are entirely my fault. This chapter has evolved from discussions I've had over the years with Bengt Holmstrom; additional valuable comments (from economist colleagues) have been made by Bob Gibbons, Jean Kimmel, and Paul Oyer. Versions of it were presented as the Karl Borch Lec-

ture for 2013 and at a conference honoring Richard Cyert and James March's classic book, *A Behavioral Model of the Firm*; comments from participants at both presentations, as well as the financial support of the Stanford Graduate School of Business, are gratefully acknowledged.

It will be obvious that this chapter does not stem from a research paper in the usual sense of the word, but instead from an essay intended to raise issues (and controversy) among economists. Given its purpose, I am more than usually interested in hearing from readers; my e-mail address is kreps@stanford.edu.

1. Some of these characteristics, such as ambiguity, preclude any modeling with mainstream techniques at all.
2. And, for just the reason that it is hard to get pay-for-performance right in Type-K jobs, it would take a lot of data, a lot of time, or both, to come to reliable conclusions.
3. I lead sessions that begin with the economics of relationships (reciprocity, reputation, and credibility; transaction costs; and vertical strategic partnerships) and then go on to motivation on the job.
4. For the summer of 2014, the six-week program, including room, board, and instruction, cost \$61,500 per participant.
5. Using the five-point numerical scale, a paired-sample test of difference in means between "how effective is X in motivating my direct reports" and "... in motivating me" gives a one-sided critical probability of  $2 \times 10^{-8}$  for X = "Success of organization" and  $1.97 \times 10^{-10}$  for X = "Work is socially important." For "Exciting work," the difference in means is still quite significant, with a one-tailed critical probability of 0.0065.
6. For a stark example of this phenomenon, see Heath (1999). In a different part of this survey, I replicate the Heath results with SEP participants and have done so every year for the past 12; along these lines, it is surely one of the easier-to-replicate empirical results about motivation.
7. The numbers of respondents in each category in these two tables differ, and they differ from the numbers in Tables 5.1 and 5.2. This happens because the tables were created at different points of time; tables created at a later time have more respondents. This, however, has no material impact on the qualitative results.

Without claiming that any of the following are "established," and recognizing the possibility of data mining in this sort of exercise, the data in Table A2 that are consistent with things I've seen in years past and that I would *conjecture* might be stable results are as follows: Europeans perceive themselves as less self-motivated by tangible rewards and more by organizational success than do U.S. citizens and Canadians, with East Asians in the middle. The U-shape seen in age versus tangible rewards has recurred; perhaps young participants feel they have time to make their fortunes, while older participants on average have made theirs. Or perhaps young participants selected to go to SEP feel so certain of their eventual (financial) success that they are unmotivated by the marginal bit of incentive pay. General managers certainly perceive themselves as more motivated by contributing to the



success of their organization than do functional specialists, an effect that largely disappears when we look at their perceptions of their direct reports. (Presumably, chairs, CEOs, and chief operating officers [COOs] regard themselves as general managers, with direct reports who are more likely to be functional specialists, such as chief financial officers [CFOs], chief information officers [CIOs], and so forth. Hence the observation that general managers see themselves as more motivated by organizational success than do functional specialists is consistent with the observation that chairs, CEOs, and COOs see themselves as similarly motivated but to a greater extent than is true for their direct reports.)

Note that *no* participants in the financial services industry said that tangible rewards were the most descriptive of what motivates their own best work. Perhaps this is an example of folks reacting against stereotype: “I’m in financial services, so everyone assumes all I want is to make money, so I’ll show them.” If you look instead at the respondents from financial services and what they said was most descriptive of how to motivate their direct reports, five said tangible rewards, five said interesting work, five said organizational success, and two said social importance. (Of course, these are all very small numbers.)

Contrast these data with results I got a few years ago when I conducted a similar survey of first-year MBA students. I won’t present the MBA data, but among the 140 respondents, tangible rewards were perceived by them in two ways: 1) as being significantly more powerful, on average, and 2) as being most descriptive of what motivated both their organizational peers (instead of direct reports) and themselves. The MBA students were asked to supply demographic details on age, sex, geography, industry (the one in which they were last employed), and undergraduate major. And in the cross-tabs, the power of tangible rewards increased markedly for two types of students: 1) those from the financial services industry and 2) those who had majored as undergraduates in economics. Geography, sex, and age showed no marked pattern.

8. I surveyed responses of a smaller and more homogenous group of upper-tier managers from a different executive education program; these participants are all connected to the financial services industry and all come from Australia. The group was relatively small,  $n = 38$ , so there are added reasons to distrust the results. But this group conformed to the pattern described in the text in nearly all important respects.
9. It is probably obvious, but I’ll say anyway that these are not *alternative* theories in the sense that if one is true, the others must be false. Different motivational channels or pathways can happily coexist in specific circumstances. (Those circumstances may be a factor in determining how powerfully any one of these theories applies.) Indeed, from a normative perspective—the perspective of the practicing manager—enlisting several of these theories simultaneously to motivate desired behavior is good practice. Therefore, one is interested in knowing which of these can happily coexist and even reinforce the others, as well as knowing which of these may weaken the impact of the others. See further on for the discussion on the undermining effect.

10. An economist colleague, reading this section, objected that this was “just economics.” The idea that employees take those actions that maximize the chance they will get a reward that they value (and even more, the “formal formulation” of an objective function that maximizes the probability of getting a reward times the “value” of the reward) is, to an economist, simple expected-utility maximization. I understand why an economist would *observe* these things; I’m unsure why an economist would *object* to a psychological theory that has a very close counterpart in the dominant economic theory of choice under uncertainty.
11. I confess that I’m somewhat unclear on the demotivating impact of inequitable rewards on those at the top end of the distribution of ratios. That wasn’t my experience as associate dean at the Stanford Graduate School of Business.
12. The theory of social comparisons is broader than its application to equity theory. It holds that, when person X tries to evaluate how well she is doing and how well she is being treated, she will look at her performance and treatment relative to others and, in particular, to others who are socially similar to herself.
13. Recent work by Grant et al. (2007) adds a fourth item to this list: her perceived *purpose*, a sense that the task achieves something important and valued.
14. I am told by colleagues who are psychologists that this paragraph doesn’t quite capture self-perception theory; it sounds more like *dissonance* theory. I gather that my use of the term *justification* is key; according to dissonance theory, when X works hard at some task, and when X is unable to perceive a clear purpose for doing so, X is afflicted with psychological disequilibrium. To resolve or mitigate this unhappy state, X looks for (and finds) justification for her actions: “I did it because . . . ,” and then whatever fills in the blank becomes part of X’s self-image. In self-perception theory, in contrast, X is simply and naturally curious about what motivated her actions. The young engineers at Data General look at their efforts and those of their peers, see that these cannot be due to the promise of tangible financial rewards if they succeed, nor to a desire to see Data General succeed, and so are left with, “We are doing this because it is fun.” And, then, they regard the activity *as* fun. The two theories give the same observed behavior (it seems to me); hence this is an excellent example of what Dale Miller (quoted at the top of p. 108) calls the psychologist’s effort to see two things that seem the same as different; in fact, I’m told that when Bem first advanced self-perception theory, something of an intellectual spitting contest with dissonance theorists was the immediate result.
15. For details, see Friedman and Deinard (1991a,b), Koloroutis (2004), and Vitello (2011). The last is the *New York Times* obituary of Joyce Clifford, who was head nurse at Beth Israel when primary nursing was introduced.
16. Well, it used to be, in the 1970s. Changes in how hospitals are compensated for patient care have pushed nursing somewhat in the direction of an assembly-line job. Keep reading.
17. See Harvard Business Review’s case study *Beth Israel Deaconess Medical Center: Coordinating Patient Care* (Gittell, Wimbush, and Shu 1999).
18. Readers well versed in the literature may know of a work by Bénabou and Tirole that provides orthodox-economics explanations for this empirical phenomenon. I will discuss their work later in this chapter.

19. As long as  $X \neq Y$ , an economist could regard attribution theory as a straightforward (Bayesian or otherwise) inference by  $X$  about  $Y$ 's preferences and desires. It is when  $X = Y$ , when  $X$  attributes her own motives *ex post* to why she took some action, and then is influenced in future behavior by the attribution on which she settles, that an orthodox economist becomes squeamish at least.
20. Just more (Bayesian) inference—in this case about what motivates  $Y$  and people like him.
21. This is a real-life story. I have tried to persuade the real-life company to let me write a case about it, but for reasons that will become apparent, they do not want this story told. So I must be careful not to identify the company and will resort to calling them Company  $Z$  in Industry  $I$ .
22. Links to the output of SPEC can be found at <http://www.gsb.stanford.edu/ces/research/specproject.html>.
23. Another 28 percent of the firms were what the researchers called a “hybrid engineering” model, a model that varied from the engineering model in only one dimension. There are seven hybrid-engineering models, one of which is Bureaucracy. Of the 36 possible models, eight differ from each of the five pure types along two dimensions, and of the 154 firms in the sample, only two were one of these eight anomalous models.
24. On multitasking, the classic reference is Holmstrom and Milgrom (1991).
25. I'm not going to build formal models of any of this, but on this point I should note that if early-career employees understand that the organization screens for this characteristic in deciding whom to promote, the incentive to act early on “as if” the organization matters to the individual is increased. This will be good for the organization with respect to early-career employees, but it will make it more difficult to do the desired screening. Load on top of this a tournament model for who is promoted, and you have an interesting model to explore.
26. And, to follow up on the previous note, as prospective MBA students, they presumably have less interest in taking actions that make it appear “as if” they have the organization's best interests at heart, since they will probably leave the organization before such behavior would bear fruit.
27. To add a technical point here: Credibility of the commitment—Condition  $C$ —is usually explained by economists as arising from the employer's desire to maintain a reputation for behaving in a certain way. But the analysis of reputations—at least, the game-theoretic analysis of reputations—makes clear that the hinge on which a reputation hangs is whether interested third parties can tell when, in this context, the employer fails to live up to his reputation. For this to work, then, it isn't enough that the employee and employer meet Conditions  $A$  and  $B$ ; third parties must meet these conditions as well, *and* have an understanding of what is “the right thing to have done.”
28. See, for example, Williamson (1996).
29. The English variant of Voltaire's saying is “Perfect is the enemy of good.”
30. Or consider the following completely hypothetical thought experiment. Suppose hospitals began to offer cash rewards for the donation from the dead of usable organs—so much for eyes, etc.—with the cash paid to the deceased's estate.

Would this increase the number of people who indicate (say, on their driver's licenses) that they are willing organ donors? Notwithstanding the bequest motive, which is well-established mainstream economics, I suspect not, at least among the relatively well-to-do. And it is hard to tell either Bénabou and Tirole story in this case, unless one supposes either that the living care to publicize that they are potential donors while alive, or that they care about their reputation when dead.

31. The subjects could donate up to \$10. In the time-ask-first treatment, the average donation was \$5.85, versus \$3.07 in the money-ask-first treatment. In a difference-of-means test, the two-sided critical probability for the hypothesis of equal means was  $p < 0.001$ . Although not reported in the paper, Liu and Aaker (2008) also collected data on the answers to the (somewhat hypothetical) questions about the likelihood of donating time and/or money. Letting  $T1$  be the average likelihood of volunteering time (on a scale of 1 to 7) in the time-ask-first treatment, letting  $M1$  be the average likelihood of volunteering money, and letting  $T2$  and  $M2$  be the corresponding means for the money-ask-first treatment, they found  $T1 = 4.12 > T2 = 2.94$  and  $M1 = 4.34 > M2 = 3.72$ . To put this mathematical representation into words, in the time-ask-first treatment, the indicated likelihood of giving both time and money was higher than the likelihoods in the money-ask-first treatment. The difference in means in  $T1$  and  $T2$  has a critical probability  $< 0.001$ , while for the difference in means between  $M1$  and  $M2$  the critical probability is  $p = 0.06$ . In both treatments, the indicated willingness to give was positively correlated: in the time-ask-first treatment,  $\text{corr}(T1, M1) = 0.462$ ; and in the money-ask-first treatment,  $\text{corr}(T2, M2) = 0.459$  (Wendy Liu, associate professor of marketing, University of California San Diego, in discussion with the author, 2014).
32. Since beauty is in the eye of the beholder, I add here that a psychologist colleague who read an early draft of this chapter was concerned that the representative of his tribe, P, comes off as "something of a twit." I don't see it, but, after all, *de gustibus* . . . .
33. If papers along these lines have been written, I am unaware of them, and I would be grateful if readers would direct me to them.
34. In fact, even Gary Becker sometimes built models in which preferences are manipulable, albeit the manipulable preferences are those of children (Becker, Murphy, and Spenkuch 2014). I say "even Gary Becker" here because of Stigler and Becker (1977), to be discussed momentarily.
35. Stigler and Becker (1977, p. 76) seem to recognize this when they write, "[No need for models of changing tastes] is a thesis that does not permit of direct proof because it is an assertion about the world, not a proposition in logic."
36. See, for instance, Kreps (2013), Section 7.3 and, in particular, Proposition 7.1.
37. And I'm hard-pressed to see how even a very clever economist could explain away Liu and Aaker (2008).

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