Discovering Psychology: Updated Edition

11 Judgment and Decision Making

>> ZIMBARDO: How do we actually make decisions?

>> Come on, kids, what next?

>> ZIMBARDO: What effect does the group have on our judgment?

>> Well, I just will not tolerate that kind of behavior from you.

And as a result of that...

>> ZIMBARDO: What mistakes do we commonly make when we negotiate?

What conditions would make this student believe her own lie?

>> ...was the same experiment because this one wasn't boring at all.

>> No way that he's going to look at your bill...

>> ZIMBARDO: "Judgment and Decision Making," this time on Discovering Psychology.

>> ZIMBARDO: Every day we have to make decisions: from legal and business ones to what we're going to eat, from products we buy to whom we're going to marry.

No matter how uncertain life is, we have to act decisively, time after time, even it it's just hiring someone else to make our decisions for us.

As a species we like to think of ourselves as pretty good at this sort of thing.

But then in comes a bunch of psychologists to tell us we've been living a pipe dream.

Much of their research has cast grave doubts on the rationality and wisdom of our decision making, revealing the failures of human intuition even when it comes to the best and brightest among us.
Come on, kids, what next?

ZIMBARDO: Traditionally social scientists identify two reasons why people lapse into irrationality.

First, there is the influence of the crowd.

As part of a mob, the individual can no longer think independently or clearly.

In the extreme case, mob psychology becomes mass hysteria.

A second view, held by Sigmund Freud and others, argues that people stop being rational and become bestial when driven by primitive needs that demand immediate gratification: sex and aggression.

To Freud, society's task is to control these animal urges by socially appropriate rules of conduct.

Today cognitive and social psychologists look for the origins of irrationality or mental fallibility elsewhere: within the very processes of the mind itself.

Fundamental to the way humans make judgments, inferences, and decisions are mental strategies that can be biased.

When a systematic way of thinking is responsible for an error in judgment, it's called a cognitive illusion.

Not that there's anything wrong or irrational with using these kinds of mental strategies; it's just that people don't always discriminate between appropriate and inappropriate conditions for using them.

In fact, human irrationality and stupid decisions are cut from the same cloth as human reason and wise decisions.

Let's see how.

Amos Tversky of Stanford University and Daniel Kahneman of the University of California, Berkeley, are two of the world's leading researchers studying how and why people make illogical choices.

Maybe we can begin with the big question.
What contribution has psychology made to our understanding of judgment and decision making?

There are two approaches to the study of decision making. One, which has been called normative, asks a question of how we ought to make decisions. The second approach, which we call descriptive, asks not how decisions ought to be made but how they're actually being made and practiced.

Well, the major theme of psychological research, as it turns out, is that the normative model of rational and coherent decision making isn't a terrific model of how people actually make judgments and decisions.

When people are put to the test, then it turns out that although their intuitions are often correct, they're also often systematically wrong in ways that are predictable and are quite systematic.

Zimbardo: Now tell me, how are we going to prove to our audience that they're not as logical as they think they are, that their everyday thinking often departs from these normative rules of rationality?

Well, actually it doesn't take very complicated questions. We use quite simple questions about which people have some intuitions and impressions.

And we can compare the way the people approach these questions to the way that they should approach them.

Zimbardo: And while you try to solve the problems, we'll also show you some of the responses of people we taped earlier.

Okay, first we have two questions which have to do with making judgments.

Number one, are there more words in the English language that begin with the letter K or words in which K is the third letter?
45 01:05:35:06 K first or K third?

46 01:05:37:27 >> I think that there's probably more words with the letter K as the third letter.

47 01:05:43:17 >> I think it's more of the first letter.

48 01:05:45:26 >> I'll go for the first letter.

49 01:05:47:14 >> I would assume they begin with K.

50 01:05:49:10 >> ZIMBARDO: Okay, question number two: Imagine that you are about to spend a month in the Middle East.

51 01:05:55:05 Which would you worry about more: a terrorist attack or a traffic accident?

52 01:06:00:18 >> Terrorist attack.

53 01:06:02:01 >> Terrorist attack.

54 01:06:03:06 >> Terrorist attack.

55 01:06:04:24 >> ZIMBARDO: Danny, are they right?

56 01:06:06:14 >> No, they're actually wrong in both cases.

57 01:06:08:15 There are twice as many English words that have K in the third position than words that begin with a K.

58 01:06:15:04 And if you go to the Middle East, you should really be much more worried about getting hurt in a traffic accident than getting hurt by a terrorist attack.

59 01:06:23:18 There are simply many, many more of those.

60 01:06:25:22 >> The responses to these questions illustrate a very general principle that people use in reasoning under a condition of uncertainty, which we call the availability heuristic.

61 01:06:38:01 Obviously people do not know how many English words start with the letter K as opposed to words that have K in the third position.

62 01:06:46:01 So how would they answer a question of that kind?

63 01:06:48:11 What they do, we suggest, is they try to imagine examples of words that start with a K, such as "key," what have you, and
try to think about words that have K in the third position.

Now, because it's much easier to think of a word that starts with a given letter than a word that has that letter in the third position, they come with the impression that there are many more of them.

>> ZIMBARDO: Danny, how does this notion of the availability heuristic help us understand the Middle East example?

>> Well, again, it's the same thing.

We assess the probability of the likelihood of an event by the ease with which instances come to mind.

When you think of the Middle East, you think of terrorist attacks and you don't think of traffic accidents.

And as a result, you are quite likely to worry much more about terrorist attacks than about traffic accidents, which is probably quite unjustified.

>> ZIMBARDO: Okay, here's another problem, this one about making inferences from evidence.

Here's a brief description of a woman named Linda.

We'll ask you some questions about her.

Linda is 31, single, outspoken, and very bright.

She majored in philosophy in college.

As a student, she was deeply concerned with racial discrimination and other social issues, and participated in antinuclear demonstrations.

Now, which statement about Linda is more likely?

Linda is a bank teller, or Linda is a bank teller and active in the feminist movement?

>> Bank teller and active, B.

>> The second one.

Linda's a bank teller and active in the feminist movement.
That Linda's a bank teller and active in the feminist movement.

Well, actually, about 90% of the people who are asked this question believe that Linda is more likely to be a feminist bank teller than to be a bank teller.

And the reason they do this is that they apply a kind of reasoning that we call reasoning by representativeness, or by similarity.

They ask themselves how similar Linda is to their stereotype of a bank teller, and she's not; and how similar she is to the stereotype of an active feminist, and she is quite similarly representative of that stereotype.

And then they use that thinking about similarity, or representativeness, to make a judgment of probability.

As it happens, however, that judgment is incorrect.

It's incorrect because it violates a very basic principle of logic, namely, that the more inclusive event is necessarily more probable than a more specific event.

That is, the set of people who are bank tellers certainly includes the set of people who are both feminists and bank tellers.

Therefore, the set with the larger extension necessarily defines the more probable event.

ZIMBARDO: All right, here's another question we asked.

Is the Mississippi River longer or shorter than 500 miles?

Then we asked people to guess the actual length.

Here are their responses.

>> Longer.

>> And how long do you think it is?

>> Must be close to a thousand miles.

>> Longer.

Maybe 1,200.
>> Longer than 500 miles.

About 700 miles.

>> ZIMBARDO: Then we asked another group of people a similar question.

Is the Mississippi River longer or shorter than 5,000 miles?

We also asked them to guess the actual length.

>> I think it's shorter.

Probably about 2,500 miles long.

>> Shorter.

About 2,000.

>> Shorter.

Between 2,000 and 3,000 miles.

>> ZIMBARDO: The actual length of the Mississippi is 2,348 miles.

When we asked longer or shorter than 500 miles, the average answer was only about 1,000 miles.

Longer or shorter than 5,000 miles, the average was 2,000 miles.

How typical is it to get such divergent answers to problems such as that?

>> This is quite a common pattern.

This phenomenon may be described as an "anchoring effect," in which the initial number, even though it's not a very credible estimate of the quantity in question, pulls the estimate, the final estimate, in this direction.

>> ZIMBARDO: Danny, is this anchoring bias limited to estimates of numbers, or does it hold for things that don't involve numbers at all?

>> Oh, it's not limited to numbers.

The general psychological principle here, that when you
have information or an impression floating in your head, even when it's discredited or you don't quite believe it, it tends to have the weight of a suggestion and to pull your impressions toward itself, and that's the essence of the anchoring phenomenon.

So if, for example, you once believed something or you were given information about an individual, say, or about yourself, which later turns out to be false, you don't completely wipe the slate and start afresh.

Some residue of the initial impression is still there.

So the anchoring effect is much broader than a numerical thing.

>> ZIMBARDO: Our last example takes you into the arena of risky choices.

Do you follow a risk-seeking strategy or a risk-averse strategy?

Let's see in the following example.

Which would you choose if you were gambling?

A, You have an 85% chance to win $100.

B, You have a sure gain of $85.

>> I'd take the sure win.

>> Sure gain of $85.

>> A sure gain of $85.

>> People generally prefer $85 for sure over the gamble with the same expected actuarial value, and this pattern has been known as risk aversion.

It's an aversion to a risky prospect.

>> ZIMBARDO: Now, suppose you have a 100% chance of losing $85 or an 85% chance of losing $100.

Which would you choose?

>> Then I would take the chance.
I would take the 85% chance of losing.

I'd take the 85% chance to lose.

In this case, people seem to prefer the gamble over the sure loss, and that again is a very characteristic pattern.

Notice that in this problem, just as in the one before, the gamble and the sure thing have... are equal in some sense.

You have... you can either lose $85 for sure or have a gamble which has an expected value of losing $85.

But here, unlike the previous case, people very generally prefer the gamble.

The notion of accepting a dead loss is unthinkable for people.

And the significance of the pattern that Danny just described is that people are willing to take often a very unreasonable risk of a much greater loss in order to avoid that sure loss.

ZIMBARDO: So, Danny, how would you sum up the practical implications of all we've been talking about?

What this analysis suggests is that under some conditions, and the conditions unknowable, we should not trust our intuitions because we are liable to predictable errors and predictable biases.

And it's not a matter that some people are much worse at it than other people; it is very much like perceptual illusions.

Those are situations in which most people are likely to make errors, which can be known in advance.

And the fact that we can predict in advance when intuition might falter gives us some hope of implementing procedures to avoid those errors or implementing or improving some educational practices at least to make people aware of the risks of error that they are running when they run them.

There are, of course, other psychological factors that affect our judgments.

For instance, there's the "dread" factor.
If risks are unfamiliar and potentially catastrophic, people tend to judge them as greater than risks that are familiar and/or have delayed consequences.

You may be terrified by the possibility of a nuclear accident and yet never think twice about jaywalking, although the odds of a nuclear accident are only a tiny fraction of the odds of getting hurt while jaywalking.

( Car horn honking ) And what if we make our judgments and decisions in a group?

Will that help ensure the rationality of our choices?

What if we assemble a group of the brightest people around?

What then?

In 1960, President John F. Kennedy gave the go-ahead to the disastrous Bay of Pigs invasion of Cuba.

Fidel Castro and his government resoundingly defeated the U.S.-backed invasion.

It was a terrible embarrassment for the new Kennedy administration.

Psychologist Irving Janis studied the records of the cabinet meetings in which the decision to invade Cuba was made, and found examples of the distorted reasoning he calls "group think."

>> In this particular decision, the dominant decision rules seem to be preserve the harmony of the group, don't make waves, don't raise any critical questions, don't express your doubts.

And that gets me to one of the main symptoms of group think, which is self-censorship of doubts.

And another such symptom is a sense of unanimity of the group that's based on the false assumption that silence means consent.

So if nobody's raised any objections, the assumption is that
everybody’s going right along with it.

There are a number of other important symptoms, like the "illusion of invulnerability," as I call it, which refers to the tendency of the members of the group to feel, "Well, it may be a difficult problem that we’ve got on our hands here, but we’re powerful enough and clever enough so that where others may fail, we'll certainly succeed."

There’s finally one other very important symptom that I call "mind guarding," and that involves various members of the group taking on the role of guarding the president and other members of the group from any of the information that might get them to change their mind or at least raise questions about what they’re planning to do.

Group think is not inevitable, however. It can be avoided. Irving Janis has outlined a number of procedures that decision makers can implement to promote more rational judgments.

One of the suggested ways of preventing group think involves having a devil's advocate appointed by the leader.

Another idea that emerges very clearly from the situation of isolation of the group is to have the leader deliberately bring in members of the government or others in the organization who have some information to convey to be present at various meetings and to encourage them to raise whatever objections or ideas occur to them.

We can't avoid making decisions. But we can try to avoid some of the pitfalls of bad decision making.

One of the newer fields of psychology is the psychology of negotiation, which attempts to avoid the sometimes fatal cost of bad decisions.

People negotiate over almost everything, from the price of new cars and the level of salaries to the lives of hostages and the fate of nations.

Recently psychologists have begun to study why many
negotiations fail and how the process can be improved for the benefit of both sides.

178 01:18:24:22 Max Bazerman of Northwestern University has identified the five most common cognitive mistakes that negotiators make.

179 01:18:33:08 >> The five major mistakes that most negotiators make are: one, that they fail to consider the judgments of the other side in negotiation...

180 01:18:43:07 two, they tend to nonrationally escalate commitment to a previous course of action and escalate conflict; three, they tend to have a very limited frame in their perspective to conflict; four, they tend to be overconfident that they will prevail in disputing situations; and five, they tend to view negotiations very much in a zero-sum manner.

181 01:19:07:19 What you win, I lose, and vice versa, even when that's not objectively true.

182 01:19:13:03 >> ZIMBARDO: Business and government professionals come to workshops run by Bazerman and his colleague Lawrence Susskind to learn how to improve their negotiating skills.

183 01:19:24:12 >> Well, Robin, your attorney called me and said that you wanted to meet with me and see if we can, you know, discuss these problems and get them ironed out.

184 01:19:34:15 >> ZIMBARDO: Bazerman assigns exercises like this one.

185 01:19:36:20 One participant plays the owner of a small business; the other, her irate customer.

186 01:19:40:27 The task: negotiate a disputed bill.

187 01:19:45:01 >> The bill I have before me is this ridiculous bill of $774.

188 01:19:49:03 >> Well, that I...I...I went back and...

189 01:19:50:28 >> Now, what's that bill?

190 01:19:51:27 >> Well, I went back and added the true cost of it after you stormed out.

191 01:19:55:21 You insulted me in front of a customer, potential customer, in front of some of my employees, and I just will not tolerate that kind of behavior from you.
And as a result of that...

>> Who insulted whom?

>> The two negotiators that we're watching fell victim to a variety of the biases that we talked about earlier.

Neither considers a perspective from the other side, and neither tries to identify what the whole problem looks like as a whole.

>> You're willing to say then that the bill that you gave me -- where is it here? -- $774 is completely erroneous and fictitious and throw it out?

>> Most definitely not.

>> What we need to do in any negotiation is to think about what's acceptable to the other side as well as what we hope to get out of the negotiation.

By thinking about the other side, we can learn a whole lot that will improve our effectiveness in a negotiation situation.

>> There's no way that he's going to look at your bill and say that it has any credibility.

>> Well, I'll see you in court.

>> ZIMBARDO: The psychological story of decision making doesn't end, however, when a decision has been made.

The act of making a decision can trigger a flood of other processes.

According to psychologist Leon Festinger, whenever we choose to do something that conflicts with our prior beliefs, feelings, or values, a state of cognitive dissonance is created in us -- a tension between what we think and what we do.

When this tension makes us uncomfortable enough, we're motivated to reduce it in a number of ways.

We may change the way we think about the decision or try to change how others think about it so that they can support our decision.

Or we may change some aspect of our behavior so that our
In other words, we try to reduce the dissonance between how we think we should act and how we actually act by changing one or the other.

In the mid-'50s, Leon Festinger and his colleague Merrill Carlsmith conducted a classic experiment in which students were engaged in very boring tasks.

The students were then given a request by one of Festinger's staff.

>> Okay, that's fine.

Let me tell you now what we're actually studying here.

It's the effect of preparatory mental set on performance.

The rest of the subjects are prepared by being told that the experiment will be very interesting and enjoyable, in fact, lots of fun.

Now I have a somewhat unusual request to make of you.

The next subject is waiting right outside, but the fellow who ordinarily gives the spiel isn't here.

I wonder if you could possibly take his place.

As a matter of fact, we figure we'll be needing someone in the future, so I'd like to offer you a $20 retainer and have you remain on call for us.

Would that be all right?

>> $20, that'd be fine.

>> ZIMBARDO: Half the students were randomly assigned to the group that received $20 for lying that the experiment was fun.

The other half were given only one dollar for lying.

>> A dollar as sort of a retainer and have you remain on call with us.

Would that be all right with you?
Yes, that'll be all right.

ZIMBARDO: The cognitive dissonance came from the knowledge that the experiment was, in fact, boring and one dollar was insufficient reward for lying.

Many of the one-dollar subjects actually convinced themselves that the experiment was fun after they made their decision, to reduce the dissonance between their prior beliefs and their behavior.

They came to believe a big lie for a small incentive.

...a girlfriend of mine who participated in the experiment last week, and she said it was very tedious.

Oh, I don't think that was the same experiment because this one wasn't boring at all.

I didn't think so.

ZIMBARDO: The $20 subjects, on the other hand, felt no dissonance because they felt comfortable in lying just for the money.

He said it was pretty miserable and that I should do everything I could to get out of it.

I think maybe your friend was wrong.

Perhaps it's a different experiment, because this was a lot of fun.

It appeared to me as if it were a puzzle.

We, you know, had to turn these knobs, and I tried to figure out what we were doing it for, but I really couldn't figure it out.

Perhaps you'll have better luck.

Other theories might predict that the man who was paid most would have the highest motivation for enthusing over the dull task and would be most sold on it himself.

Cognitive dissonance theory leads to an exactly opposite prediction.

The man who is paid $20 knows that the task is dull, but he
also knows that he had sufficient justification for saying that it wasn't.

>> Did you enjoy working on the manual task?

>> Well, it really wasn't too enjoyable.

In fact, it was rather boring.

>> How about the man who is paid one dollar?

He knows the task is dull, but he has two discrepant thoughts.

He also knows that he did not have sufficient justification for saying that it wasn't.

For him there is dissonance.

Time after time we have seen what follows.

He reduces the dissonance by changing his opinion about the dullness of the task.

>> Did you enjoy working on the manual task?

>> Yes, I enjoyed it.

>> Would you like to participate in such an experiment again?

>> Yes, I think I would like to.

>> Any time there is insufficient reward, there will be dissonance.

The general principle seems to be that people come to believe in and to love the things they have to suffer for.

>> ZIMBARDO: By discovering how people actually behave and not how some theory says they ought to behave, psychology can provide guidelines to help us catch ourselves before we go astray, or redirect us once we do if we follow them.

In this program, we began in the cool cognitive climate of judgment.

As we moved to decision making with its motivational
dynamics, the climate warmed up considerably.

260 01:25:57:29 In our next program, we're going to head for some hotter venues, where motivation and emotion thrive.

261 01:26:04:15 How we're driven by appetite and passion, blocked by fear and guilt, made joyful and sad, next time.

262 01:26:12:20 I'm Philip Zimbardo.

263 01:26:18:02 [Captioned by The Caption Center WGBH Educational Foundation]

264 01:27:20:23 >> Funding for this program is provided by Annenberg/CPB to advance excellent teaching.

265 01:27:32:04 >> For information about this and other Annenberg/CPB programs, call 1-800-LEARNER and visit us at www.learner.org.