

0:03

[Music]

0:21

I have a confession to make I'm stubborn

0:29

sometimes I refuse to change my mind

0:32

just because well no one really likes to

0:36

change their minds and we especially

0:38

don't appreciate it when someone tries

0:40

to change our mind for us in my case I

0:43

learned this fact about myself in kind

0:46

of an embarrassing way about eight years

0:49

ago I met the man I would eventually

0:51

marry early in our relationship he asked

0:55

me to go to the ballet

0:57

well I panicked I hate the ballet I

1:04

hated the ballet ever since I was 4

1:07

years old and I was forced to take

1:09

ballet lessons one day I came home put

1:13

my four-year-old foot down and announced

1:14

to my family I quit not only did I

1:18

refuse to take any more ballet lessons

1:20

I pretty much refused to go to the

1:22

ballet again ever except for that time I

1:25

got dragged to the Nutcracker the truth

1:28

is I had good reason for my dislike of

1:30
the ballet all that childhood trauma
1:33
besides nobody in my family liked it and
1:36
I'd spent years telling people that I
1:38
didn't like it either so that's why I
1:40
had a minor crisis when this guy I
1:42
really liked asked me to go to the
1:45
ballet I did not want to say no but
1:49
somehow not liking the ballet had become
1:52
an important part of my identity without
1:54
my even realizing it truth is what I
1:58
thought about it I hadn't been to the
1:59
ballet since I was 5 on the other hand
2:02
what if someone saw me there someone who
2:04
knew I'd taken a principled anti ballet
2:08
position and then an even scarier
2:12
thought hit me what if I actually
2:14
enjoyed it what if I were forced to
2:18
change my mind
2:20
years later this experience came in
2:23
handy when I was trying to understand
2:25
why people sometimes insist on ideas
2:27
that are not consistent with medical
2:29
evidence I think isn't it obvious but

2:32
the day to say acts and there's
2:34
why what's the big deal why can't they
2:38
just change their minds and then it hit
2:41
me
2:41
if it was that painful for me to even
2:44
consider changing my mind about the
2:46
ballet maybe it wasn't so hard to
2:49
understand why someone would hold on to
2:51
a belief they had held for years
2:53
especially if that belief had helped
2:55
them make important health decisions and
2:57
if it even had come to define their
3:00
identities when I thought about it that
3:03
way
3:03
suddenly everything that seemed
3:05
hopelessly irrational to me suddenly
3:08
made a lot more sense when we think
3:12
about this issue of science denial in
3:14
health care we tend to think in terms of
3:17
individual instances of irrational
3:19
beliefs vaccines cause autism
3:22
climate change is not real a gun in the
3:25
home makes you safer all of these

3:28
statements represent beliefs that many
3:30
people hold despite evidence to the
3:32
contrary
3:33
these beliefs can lead people to make
3:36
decisions that are extremely dangerous
3:37
for them and for those around them news
3:41
of measles outbreaks in Minnesota and
3:43
the many firearm suicides that take
3:46
place every day show us that this issue
3:49
of disregarding the evidence is a real
3:51
and urgent problem this kind of attitude
3:57
and these behaviors drives health care
4:00
practitioners and public health
4:02
professionals crazy when we hear
4:04
somebody say vaccines cause autism we
4:07
tend to want to shake the person and
4:09
yell that's not true you're wrong until
4:12
they come over to our side believe me I
4:15
know because I've wanted to shake a few
4:17
people myself and this has been our mode
4:20
of response to these issues for years
4:22
now but this is absolutely the wrong
4:24
thing to do meanwhile public health

4:27
professionals and health care
4:28
practitioners are guilty of making all
4:30
of the same mistakes everyone else does
4:32
when it comes to following
4:34
evidence-based practice we prescribe
4:36
antibiotics when they're not needed we
4:39
perform unnecessary medical procedures
4:41
and we ignore risks of health outbreaks
4:44
and other crises until it's too late
4:48
so where are we going wrong our first
4:52
mistake is that we tend to assume that
4:54
all people need is more information and
4:56
that the data alone will save the day so
5:00
we spend a lot of time and effort giving
5:02
people the facts sometimes this works
5:06
but in many cases it's not a simple lack
5:09
of knowledge we're dealing with
5:11
sometimes giving people the facts can
5:13
even backfire and make them less likely
5:15
to believe us so what are we up against
5:19
if it's not a simple knowledge gap we're
5:23
actually up against the fundamental ways
5:25
in which human psychology conflicts with

5:28
science and there's one major way in
5:31
which our natural psychological
5:32
processes conflict with science science
5:36
depends on updating constantly with new
5:40
information but our brains do everything
5:43
they can to keep us from changing our
5:45
minds the psychology of sticking to your
5:48
guns is so entrenched that we can even
5:51
see it hardwired in the brain some
5:54
imaging studies have shown that if you
5:56
ask somebody to express a position they
5:59
do not agree with a part of their brain
6:01
called the amygdala lights up this is a
6:04
part of the brain that's associated with
6:06
fear a very primitive fight-or-flight
6:08
emotion on the other hand if you ask
6:12
someone to express a position they do
6:14
agree with there's some evidence that
6:16
this process involves the release of a
6:19
neurotransmitter called dopamine which
6:21
is associated with the brain's reward
6:23
centers going against your belief
6:26
insights fear while sticking to your

6:28
belief is actually rewarding it feels
6:31
good to stick to your guns the same
6:34
thing is true of group psychology going
6:37
against the group it doose's the brains
6:39
fear centers while sticking with the
6:42
group stimulates the brains of reward
6:44
centers when you think about it these
6:47
findings make sense there's no question
6:50
that it's beneficial for us to be
6:52
cooperative social beings the health and
6:56
survival benefits of being part of a
6:57
group have been demonstrated extensively
7:00
the fact that our brain
7:02
are wired to keep us in line with the
7:04
group it's actually adaptive the same
7:08
thing is true of sticking to your
7:09
position or opinion indecisiveness is
7:12
generally not rewarded under threatening
7:16
conditions it can even be risky once
7:19
you've decided that something is
7:20
dangerous this allows you to make quick
7:22
decisions in the face of real danger the
7:25
problem is that all of these things

7:28
changing your mind going against the
7:30
group evaluating things independently
7:32
are central components of the scientific
7:35
process without them we can be led
7:38
astray we often hear of people losing
7:42
faith in science because they read one
7:44
day that coffee causes cancer and the
7:46
next day that it cures it what they're
7:48
really responding to is the natural
7:50
progression of science we have a
7:52
hypothesis we test it and we confirm it
7:55
in one study then someone else comes
7:57
along and can't replicate it then a
7:59
third person comes along and replicates
8:01
it but in a different population and on
8:03
and on and on the truths that we hold in
8:08
public health and medicine are the
8:10
results of many many years of slow but
8:13
steady inquiry in the mean time there
8:16
can be a lot of internal contradiction
8:20
meanwhile people have to make health
8:22
decisions and we are primed to do so
8:24
quickly and then resist changing our

8:26
minds even when new facts emerge once we
8:30
read Andrew Wakefield's 1998 claim that
8:33
vaccines cause autism we're likely to
8:36
disregard the 2003 retraction and
8:39
subsequent debunking of that hypothesis
8:41
especially if we've also joined groups
8:44
of other parents who agree with us let
8:49
me now come back to where I started the
8:51
terrors of the ballet despite all of the
8:55
reasons I had for not changing my mind
8:57
both psychological and neurochemical I
9:00
decided to give the ballet a try at
9:04
first I did not say anything to my
9:06
family I was a little embarrassed but
9:09
after about four or five trips to the
9:11
ballet over eight years I finally said
9:14
something to my mom just
9:15
casually her response was as expected
9:18
you at the ballet I said yeah I kind of
9:23
don't mind it at that moment all of my
9:26
worst fears did not come true my mom was
9:30
just happy that I was happy and even
9:32
though we both agree that it's still

9:34
kind of funny that I of all people is
9:36
going to the ballet and even though I
9:38
don't love it we both recognize that my
9:42
marriage had forced me to re-examine a
9:44
belief that I once held firmly that is a
9:48
good thing we can all be better about
9:51
changing our minds but how do we do this
9:54
the first step is to understand how and
9:57
why you form the belief in the first
9:59
place then look at some of the barriers
10:02
to changing your mind and think about
10:04
some of the benefits and drawbacks of
10:06
holding on tight
10:08
finally you can introduce yourself to a
10:10
new idea slowly and a piece that makes
10:13
the change less threatening in my ballet
10:16
example I actually followed these steps
10:18
almost exactly first I went back to
10:22
memories of my childhood to understand
10:24
how and why I formed a belief that I
10:26
hated the ballet then I recognized that
10:29
the barriers to changing my mind
10:31
included the fact that my family my

10:33
tribe agreed with me at the public
10:37
nature of my position then I realized
10:40
that the benefits of holding on to my
10:42
viewpoint were reinforcement of the
10:44
close connection with my tribe and the
10:47
appearance of consistency to others but
10:50
the drawbacks include a potential
10:52
alienation of a new important person in
10:54
my life and the possibility of missing
10:56
out on something I might really enjoy
10:59
finally I introduced myself to the new
11:01
ideas slowly by going to one or two
11:04
ballets over the next year and
11:05
withholding a complete shift in judgment
11:08
until after a few more experiences I did
11:11
not just wake up the next day buy season
11:14
tickets to the New York City Ballet and
11:15
post about my deep love of the art form
11:18
on Facebook I introduced myself to the
11:21
new idea at a pace that made the change
11:23
less frightening
11:25
so what does this mean for us in health
11:28
care what do we do about such a deeply

11:32
entrenched psychological phenomenon that
11:34
causes people to make decisions that are
11:36
extremely dangerous
11:37
like not vaccinating their children
11:39
against highly contagious fatal
11:42
illnesses well for one thing we need to
11:45
stop yelling at people who don't agree
11:47
with us we also need to stop assuming
11:50
they're stupid they're not actually we
11:54
need to get rid of this us-versus-them
11:56
mentality altogether there is no us
12:00
versus them we're all prone to the
12:05
misapplication of psychological
12:07
processes that leave us stubbornly
12:09
clinging to ideas that are wrong we've
12:12
all been horribly stubbornly wrong and
12:14
will continue to be horribly stubbornly
12:17
wrong about certain things for much of
12:19
the rest of our lives
12:21
our first step is to accept this admit
12:25
our mistakes and stop trying to win this
12:28
isn't about winning this is about
12:31
working together to overcome the

12:33
pitfalls of our own minds many people
12:37
have told me that they fear there's an
12:39
unwinnable battle being waged right now
12:41
against facts evidence even the truth
12:44
writ large I don't see it that way but I
12:48
do see that if we want more people to
12:50
accept the science on controversial
12:52
issues we need to approach this
12:54
differently it's not hopeless and so the
12:58
good news is that this field of friendly
13:00
persuasion is helping people change
13:03
their minds about the little things like
13:05
the ballet but also about the big things
13:09
that save people's lives thank you
13:16
[Applause]