

## Positive Psychology – Lecture 9

Harvard Positive Psychology, So first I wanna say hi to extension school. We have 350 students watching our lecture every day. So I wanna say hi to them. And actually I want to especially invite extension school and everybody here to see our very modest Tal- right?- he didn't tell us he was on 60 Minutes, but that is OK. But Saturday night, Tal is going to be the honorary basketball coach for the women's team, which- the game against Cornell on Saturday at 7 o'clock, which is the biggest game of the season... Six? Six o'clock on Saturday. The biggest game of the season. We actually wanna see everyone of you here and everybody at the extension school at the game. Extension students, I'll have free tickets for you. Well, most of you- a hundred of you. So in honor of that, we have an honorary student and an honorary team which is, our very famous Kathy Delaney-Smith, award-winning, the most fabulous coach in a whole nation and... our women's basketball team is here! Come on now! These are our honorary students. There you go. They are shy. Alright, so come! Come and see them! And actually I'll be there with all my friends and families. And Tal will sign your hand. Alright! Ready guys?

(One player: Yeah.)

This is the biggest game. These are the Ivy League Champs last year! Alright. Give 'em a throw. Throw 'em out. Throw 'em out! Go! Go! Go! Let's go! Go! Go! Let's go! Hahaha. Alright. Thank you. Thanks. I'll see you all on Saturday. Good luck. Thanks. OK. I didn't plan this, but... (Tal blows a whistle.) Alright. Alright, do I have anything else? Oh. OK. Thank you .And thank you. And we are going to continue talking about gratitude. So... Last time, I ended by talking about my role model- the person who to me exemplifies, more than anyone else what a true benefit finder is. And when I told about my grandmother, I told the... I told you how she wasn't ignoring what wasn't working, she wasn't ignoring the evil, the bad, the negative in

her life. However, the same time, she refused to ignore the positive. In other words, what she insisted on was staying real. Being real. Being connected to what was around her. And when it was evil and bad, she was connected to that and at the same time, she was also connected to the good. Benefit finder is not about being a detached Pollyanna. Far from it. The question we asked last time- and I want to end the lecture today on gratitude before we move on to change- was:

One, why are not more people benefit finders? Why are more people not optimistic? I mean, you saw the research. People live longer. They are happier, healthier, more successful. Why isn't everyone a benefit finder? Why aren't we all optimists? If it pays, in both the ultimate currency- the currency of happiness as well as in hard currency- success currency? Why are not more people benefit finders? And the answer to that was, to great extent, because of the media. What we have in the media is magnifying, zooming in, magnifying the negative, maximizing it, having it take the entire screen, the entire page, while minimizing the positives. And in many ways ,the media makes fault finders out of us. And we need to counter that. How do we counter that? On the macro level, by having good news channels, for example. On the micro level, by having more inspiring art. Art throughout history has changed the world- whether it was during the dark ages, at the transition to the Renaissance, whether it was during 18th and 19th century with Romantic artists and paving the road to freedom, whether it was in mid 1930s and 40s with the Renaissance in many ways of Hollywood, bringing more hope to people. So art plays a very important role, and hopefully, will continue to do so. So then we talked about the global level, the macro level. On the micro level, we talked about not waiting for bad things to happen, for tragedy, for something external to happen for us to be grateful.

Because when we are grateful, by definition, we don't take something for granted. And we shared the readings and the research on gratitude. The key, when doing it,

when doing this exercise- and as I said, I do it every single day. I've done it since 19th of September, 1999. Every single day. Religiously. The key to doing it and not taking this exercise for granted is by maintaining freshness through- if you want to do it once a week, it's better to do it once a week mindfully than doing it every day and taking it for granted. And OK check- did that. But ideally, you want to do it every day. Because by doing it every day, that's when you form a habit. That's when you transform your thinking. And if you do it every day, the key is to vary, to think about different aspect every day, to think about different aspects of your family if you write family every day. To write about work one week. To write about home the next week. Maintaining mindfulness, focusing on things you didn't notice before, creating novel distinctions, as Ellen Langer would say. And visualize- so when you are thinking about your girlfriend or boyfriend, and writing your gratitude, visualize them. When you are thinking about the meal that you just had in your dining hall which was delicious, think about it. Visualize it. Make it as real as possible. That's how children think.

And that's why children have this freshness on the day to day- they don't take anything for granted. They see life as a miracle. You know, Emerson once said, "if the stars would shine once in a thousand years, we would all look up and praise the glory of this world. But because they shine every day, we take them for granted." For children, that doesn't exist. And part of the reason why it doesn't exist is that because they don't think automatically, conceptually. They think more perceptually. Or sensually. And they remain connected to the real. And we can do it simply by visualizing. This is a wonderful research done here, William James Hall, 8th floor. The key to this, as to any change that we'll talk about- we are going to devote more than two lectures to change today as well as the whole of next week- the key is to do it. To just do it. There are no short cuts. It's not because you've been through a lecture on gratitude and you understand, you really understand what a benefit finder means. That doesn't... That will not in and of itself make you a benefit finder. You need to do it.

You need to experience it. And it's only through that, that over time, over time, you'll begin to see more and more of the positive in the world and counter the current schema that most of us have literally been imprisoned by, the fault finder schema. William James in 1890, said that it takes about 21 days to change a habit. It's probably a little bit optimistic. May take a little bit longer. But try for 21 days. See what happens. You know there are some people. I know some of you have already started this after last class. Some people see the benefits immediately and then you know the benefits may go away. And then they see the benefits again six months later. But try. Try it for at least 21 days. At least a month. Next week is going to be your task as part of your weekly assignment.

But start today. Don't wait. No other way to change. Because what you are doing is gradually chipping away the excess stone. That excess stone, that limitation that has been put on us by the schema all around us, by the news that you read this morning, by most conversations, internal conversations that go on as well as the external conversations. And what you are doing, when you are doing this simple exercise, the reason why it works so well- remember people who do it regularly and mindfully are happier, healthier, or more generous and benevolent ,more successful. The reason why it works is because what you are doing is chisel by chisel, chipping away the excess stone. In my book, I talked about O'Hart Cummin, my teacher and I've spoken to him... about him a few times in the class. He told me a story once when he was not much older than most of you- he was in his mid-20s, left Israel to... He was living in Europe for a few years and ended up in Holland. And after a while, he found himself homeless, literally living under a tree, cold- it was the winter, penniless- didn't have any money and without any friends. Absolutely miserable. And somehow for some reason, he said OK. He was in this depression for a few weeks and he said, "well, let me try something." Took out a piece of paper and on this piece of paper, simply wrote everything for which he was grateful.

So the kind of things he wrote there, as he told me: Beethoven's fifth- he loves music. He wrote his parents, who were in Israel. He wrote vanilla icecream, which until today is his favorite. He thought about his friends back home. All the things- he made a long list of all the things in the world for which he is grateful for. And he credits this experience as the turning point in his life. Why? Because he started to focus on something else. Not just on the impossibilities, on the terrible, but on the possibilities, the wonderful. Do the experi... And by the way, he has this- he's now 55 years old. He has this piece of paper with him, crumbled but still there, in his wallet, reminding him that there is so much, so so many wonderful things in the world. Just think about the kind of life that we are leading. Back only 200 years ago, who could afford to listen to their favorite musicians, or to watch their favorite actors, favorite plays? Who could afford to do it? Only royalty. And even them- they were limited, in terms of which musician was in town or what players were in town. Today, we have literally the tip of our finger, whether it's on our MP3 or our DVD player. Imagine... Just think about the luxury that we are living in. Kings and Queens that not lived that kind of luxury.

However, we get used to it. We adapt. And sometimes it's a good thing, because we also adapt to difficult experiences. And the question is how do we learn in a sense to (12:47), meaning to adapt to the painful but not to remain impervious or to become impervious? To become indifferent to the privilege that we have. How do we maintain the gratefulness? And it's by being mindful. By thinking about those wonderful things that we have, whether it's in a friend, whether it's in a movie we want to watch, whether it's in the lunch we are going to have served to us in our house later. The gratitude exercise- one of the reasons why it's so powerful- because what we are doing is we are co-creating a reality. Most of the questions that we ask or are asked of us is "what's wrong?", "what needs to be improved?", "what are my weakness areas?" Important questions- not enough. If these are the only questions that we ask as far as

we are concerned, good does not exist. And when we ask "what are my grateful for?", even it's just once a day, that in and of itself creates- (A student sneezes) Bless you. That in and of itself creates a new reality. And we begin to see things that we haven't before. So when I do this exercise and I have been doing it for a long time, I notice things today that I wouldn't have noticed, had not been doing this. And I would say, "oh, this is something I am going to write tonight. It's so beautiful."

You know, when I go for a drive and see Sunday night mountains in Hampshire, I'm going to write this down later. It's... And I wouldn't have noticed it. And as far as I was concerned, these things did not exist, just like the children on the bus did not exist, while you are not asking also the right question. It's important to express gratitude obviously not just to ourselves, but also to others. A lot of research on that too. This was done by- you are reading or you have read- the paper by Seligman talking about expressing gratitude to others, whether it's in the form of a letter or a visit or phone call. And the key of expressing gratitude- this is not just a thank you note. Dear Mom, thank you for being so great. Love, me. That's not just a thank you note. It's sitting down and thinking, "what can I be grateful for, for my mom? What has she done to me? What has she given me throughout these years?" And really thinking about it. Or really thinking a thing, "what this teacher from 3rd grade do for me?" Not just talking to my friends, "I have a wonderful English teacher in 3rd grade." But sitting down and thinking.

What am I grateful for? What did she or he do for me that has contributed so much to my life, to who I am today? Or my roommate who always goes out of his or her way to help. I am really grateful. And to think about it. Not just to, you know- at the end of year or of the summer, "oh you are great. You are terrific." Really think about what these people, the important people in your life are doing for you and express it. Don't take that for granted. Don't take for granted that they know how



grateful you are. "Yeah, of course mom knows. Of course dad knows that I'm grateful and they are terrific." Don't take it for granted. Express it.

Again, write it in a letter or by phone or in person. One of the most effective interventions out there today is expressing gratitude to others especially this one: writing a letter of gratitude and then visiting the person to whom you are writing and reading them the letter. Cheesy? I agree. A little bit embarrassing? Sometimes. You cannot imagine the kind of result that people get when doing just this gratitude visit. But even if you don't visit them, you do feel self-conscious doing it. I do recommend it. But you feel self-conscious, send the letter, make that phone call. And before, just think for a few minutes, "what am I going to say? What am I really grateful for?" Again, whether it's to your parents, whether it's to your friends, whether it's to your 1st grade teacher. Just do it. Whether it's to your coach. The largest peak, boost, spike in wellbeing when we are expressing gratitude to others. Quite remarkable if you think about it. And if you think about it further, it is a win-win. Because obviously you get the benefit- this is what the research shows. We feel good when we express it. and the other person feels good too. They benefit a great deal. So you are creating a win-win and an upward spiral, because that person is then more likely to express gratitude to others. The best way to lead it by an example: be the change you want to see in the world, as Ghandi said. So you want people to be more grateful? Express gratitude yourself. They are more likely to then take it on and express gratitude to others. So not only you start an upward spiral between you and that person, but also potentially between that person as well as others. Paying it forward. Paying it forward.

The downside of this intervention is while it leads to a spike in well-being, that spike usually goes away after about a month. It varies: it can go away after a week or after three months. But the average it goes away after about a month. The spike to well-being. So the key you want to maintain the spike is to do it regularly. Either once

a week. Once a week, two weeks. Once a month. Do it. You can do it one week a gratitude phone call and make it ritual. The next week, a gratitude letter. The week after that, a gratitude visit. Or something like that. Again, variety. Variety really helps here. But do it regularly as a ritual. And when we talk about change next week, we'll talk about the importance of rituals. Because in many ways, that's the only change for real, lasting change. Here's one of the surprising findings that Sonja Lyubomirsky found. What she found is that if we write that letter, we get the spike in wellbeing even if we don't send it. Obviously if we send it and we get feedback, the spike is even higher. But just the act of writing it, of being grateful, being open, that in and of itself contributes to wellbeing. Next week, your response paper is going to be a letter of gratitude, which we will highly recommend you visit the person and read it to them or, at the very least, send it if you are not close to them now physically.

But even if you just write it and don't feel comfortable sending it, that in and of itself contributes to our wellbeing. I want to go a little bit more in depth into how we express gratitude and in general, how we deal with painful and positive emotions. Once again, Sonja Lyubomirsky did research, while she invited participants to talk about or to share the worst experiences of their lives and the best experiences of their lives. And what she did was divide them actually to four groups. One group- write about it. Write about the ABC, the affect- the emotion, the behavior- what you did then ,and the cognition- what you thought then. Three times on three consecutive days for 15 minutes. First group just wrote about it. The second group talked about it to a tape recorder about the same best experiences and another group, worst experiences. Third group, just think about it- ruminate for 15 minutes also on three consecutive days. What she looked at was physical and mental health. She looked at how healthy they were. She looked at their physical... how they perceived themselves as healthy or not, how many symptoms they actually had. And she looked at their mood- how happy they were. Before the experiment and four weeks later, after that three days,15



minutes each day intervention.

There was also a fourth group, which was a control group. Here is what she found. So basically you have three or four by two, writing, talking and thinking. Study one: worst experiences. Study two: best experiences. Those who wrote- let me just explicate this. Those who wrote about the worst experiences actually felt better and were physically healthier, compared to the control group four weeks later.

Those who talked about it to a take recorder- remember? about what they felt, about what they've been through, about what they thought at the time while they are thinking now. 15 minutes, three days. Actually, felt better after talking about it. Those who thought about it, who ruminated about it, without talking, without writing about it, actually felt worse and were physically less healthier a month later. The second study, where they wrote about their happiest experiences, we see the opposite trend. In other words, those who wrote about it on what they experience, how they experience it, what they learn from it on three days, for 15 minutes each time, actually felt worse physically as well as mentally after a month. Those who talked about it also about the ABC- the affect, the behavior, the cognition, also felt better and were less healthy a month later. Well those who just thought about it, ruminated about their positive experiences, imagined it on three consecutive days, 15 minutes each day, actually felt better and were healthier a month later, four weeks later. So she ran the third study to understand- this was a surprising result, was not what she expected. So she ran the third study to understand the mechanism- what is going on here. Why is it that when we write and talk about negative experiences, it makes us feel better and healthier? Strengthen our immune system? Whereas when we just think about it, ruminate it, what's going on here? Whereas the exact opposite is the case with positive emotions.

And what she found was there was a distinction between analyzing and replaying. When we analyze an experience, when we make sense of it, it helps. It actually helps.

Painful experiences and negative experiences, which is why therapy helps. And what helps in therapy more than anything is less of technique, less the years of study that the therapists had, less the experience that the therapists had. These things matter. But not that much. What matters most is are they empathic. In other words, are they good listeners? so when we feel like we can talk and analyze about painful emotion, we feel better. We are physically healthier. When we simply sit down and ruminate about painful emotions without making sense of it, we get very often into a downward spiral. We narrow and constrict. We feel more sad. We narrow and constrict even more. Remember the Barbara Fredrickson's studies?

And so on and so on. In contrast, we are not sure why. when we analyze a positive experience, really analyze it- try to understand why it happened and so on. So we do it for three consecutive days. It actually doesn't help. We don't understand why. But maybe it's because it takes all the fun spontaneity from the experience. However when we just ruminate about the positive experience- just think about it, then it contributes to our well-being. The gratitude exercise is about replaying the experience. It's exactly that. In other words, it's thinking about our happiest experiences of the day, which leads ultimately to positive outcome. So what is it saying about the permission to be human? How is it different? Because the permission to be human is also very much related to being happier and healthier in the long term. Well here's the difference: with the permission to be human, we give ourselves the permission to experience the emotions for as long as necessary. If we just lost someone, it would be much longer than if we just didn't perform so well in the test. But we give ourselves the permission to experience the experience. And then we ask ourselves, "so what would be the most effective way to act now?"

And one of the most effective way to act would be to share that experience. One of the most effective way to act would be to just write in our journal. Daily active

acceptance. Not just ruminating and staying there with this painful emotion. Now one of the things I thought about it also in the context of my grandmother's experience is why is it that- we'll talk about PTSD in a few minutes- why is it that so many people in the United States coming back from Vietnam (30% of Vietnam vets experience post traumatic stress disorder). It affected their entire lives. Whereas people who have been through the holocaust, no less terrible experiences, very often, much worse experiences, people who have been through the holocaust, percentage wise- there are far less people who have PTSD- post traumatic stress disorder.

Why this difference? I mean, you know in Israel, 50% of the older population- when I was born, 50% of the population were holocaust survivors. I didn't see much post traumatic stress disorder there. Whereas again, 30% of Vietnam vets have PTSD. Now the jury is still out to see how many of the second Iraq war will come back with PTSD, but the number is going to be staggering too.

Why? What's the difference? And I think this explains the difference. You see, Vietnam is not a popular war. Many of the vets who came back to their home, to their country didn't talk about it openly. They kept it inside them. And what they did was they were- right here- thinking about some of the worst experiences, replaying it in their minds over and over and over again. And the situation just worse and worse and worse. In contrast, people coming from, again no less terrible experiences in the holocaust. They came back to their village. They came back to their country. They came to Israel and what did they do there? They talked about it. They talked about their experiences- most of them, not all- most of them talked about their experiences with their friends, with their family constantly talked about it. They were here. And over time, it helped them move on and continue. So the best advice from this study, you know that, as I told you, I am not going to teach you much new in this course. Just want to remind you how helpful it is to have support group. How helpful it is to

share with friends, with family, with a therapist, with a journal, in writing.

We'll talk about journaling next week- you know the most effective interventions both for positive as well as negative experiences- only we are writing in different way: one we analyze; the other, we simply replay. Being grateful shouldn't wait for Thanksgiving. We shouldn't wait just once a year, that November date, when we express gratitude, when we go around the table and say what we are grateful for. It should be a habit. A, because it works, it helps. And B, because it's moral. This gets to a point that I'll repeat throughout the course, where the moral is also the practical. The practical, in most cases, is also the moral. They go hand in hand.

David Steindl-Rast, What brings fulfillment is gratefulness, the simple response of our heart Again, just like a child. The poet, Galway Kinnel: Cicero: "Gratitude is not only the greatest of virtues, I thought about this sentence a lot which I love, but why? Because if you think about it, if we are not grateful, then we take things for granted. If we are not grateful for the good things in our lives, things are taken for granted. And then we are blind to them. Then as far as we are concerned, they do not exist. Now what makes virtue virtuous? It's the good. And if there is no good in our world, then that takes away the virtue from being virtuous. That is why I think... what Cicero was talking about when he meant "it is the parent of all virtues". Another concernment benefit finder is the Radcliff student, or was a Radcliff student, Helen Keller. Helen Keller, quite literally, open our eyes and get us appreciate what is all around us.

She tells us a story in her wonderful autobiography about a friend who came to visit her once in Cambridge. There were many more woods at the time. And the friend walked around the woods and when her friend came back, Helen Keller asked her, "so what did you see? What did you note?", to which her friend responded, "well, nothing in particular." And Helen Keller responds to that "nothing in particular" in her

autobiography. Let me read. "I wondered how it was possible to walk for an hour through the woods and see nothing of note. I who cannot see find hundreds of things: the delicate symmetry of a leaf, the smooth skin of a silver birch, the rough, shaggy bark of a pine. I who am blind can give one hint to those who see: use your eyes as if tomorrow you will have been stricken blind. Hear the music of voices, the songs of a bird, the mighty strains of an orchestra as if you would be stricken deaf tomorrow. Touch each object as if tomorrow your tactile sense would fail. Smell the perfume of flowers, taste with relish each morsel, as if tomorrow you could never taste or smell again. Make the most of every sense. Glory in all the facets and pleasures and beauty Take a minute twice a day to focus on what is going on around you Take a minute when... on your way to class to look at the beautiful grass, the beautiful trees, the beautiful snow. Take a minute in the evening to reflect and think about the day you had, and to write down the things for which you are grateful. Today over lunch, just by a little bit slower than you do normally and taste, experience the taste.

Because it is a privilege to have the food that we have. It is a privilege to have the friends that we have. the family that we have. And we shouldn't take that privilege for granted. Because what we don't appreciate unfortunately depreciates. We don't need to wait for a threat, for a tragedy, for us to appreciate what's all around us and within us. What reminds me constantly, my surrounding, the reminder that I have always in front of my eyes, is a picture of my family and particularly, of my grandmother in the middle. And here's my grandfather who saw her coming in stooped, ill and took her into his arms. I have this picture in my office. Looked at it all the time to remind me. I would have told you the story now which comes at the end of the lecture. But I know when I tell the story, it drains me so much. I don't think I would be able to go on. So I told you at the end of the lecture last time. But this is my reminder. This is what primes me, creating a positive environment- primes me and reminds me to be a benefit finder.

So here is what I want to do now. What I want to do now is take a time in. The first time in of the semester, not the last one. Time in when you have a chance to look inside yourself, to reflect. You'll have opportunity in sections as well. I want to do it now in this room. I want you to take just a couple of minutes to think about and write down mindfully the things for which you are grateful. The wonderful things in your life. So take two minutes to do it. (Time in) Ok. It would be great if you continue this later on as well. But I want to do something else now. Something slightly embarrassing. My apologies in advance. But what I'd like you to do now is share with the person next to you some... You don't need to share everything. And you can have some beeps in middle if you want to have censorship. That's fine. But just take couple of minutes to share with one another, with the person next to you or if there are three of you, just share quickly. I am just going to give you two minutes for that. The things for which you are grateful. You can elaborate on one thing or you can read the list.

(Students talking)

Take 30 seconds more. 30 seconds more to finish up. OK. OK. You... You can continue later. I recommend you continue later. Very simple intervention that goes a long way. If we just learn to focus on the positive, we co-create the more positive reality. What I want to do now before moving on to the next lecture on change. I want to say a few words about the final project. Remember the idea of the final project is basically a presentation anywhere between 20 to 30 minutes that you will create. This is both for the extension school as well as for the college students. w0-30 minute presentation that you will hand in as, or about any topic within positive psychology. And by the way, that could also be positive psychological interventions for depression or anxiety. It could be about gratitude. It could be the mind body connection. It could be about spirituality and religion. It could be about self-esteem. What I would urge you to do is find the most personally meaningful topic that you want to research.



Remember what is the most personal is also most general. So if you are very much interested, passionate in spirituality, do that. If you really want to understand more and be able to apply to your life more, positive psychological interventions for, I don't know, public speaking anxiety or whatever it is, do it on that.

The more personal you get in that, in that paper, the more you'll get out of it. You'll hand it in as a written text. 20 to 30 minutes is about 10 to 15 pages of texts and this is what you'll ultimately hand in. You'll give both a written text as well as slides. We are not going to grade for how beautiful and how amazing your powerpoints... But we do want you to hand in slides that will be the outline for your talk. Now the only part of this that will be actually graded is what you hand in at the end, meaning the text of your lecture. However, in addition to that, the powerpoint will be graded pass/fail, meaning you have to do it. but you are not going to be graded for it, is to give the presentation to other people from your section. Those of you in extension school will give to other people in your community.

The idea here is paying it forward. Getting an idea and doing it. That's how I actually started my speaking career. I had a topic that I was personally interested and I gave it to the squash team. I talked about it. Just to people close to me. And I had a topic and then that evolved over time. So we want you ,for those of you who haven't had the experience is to first of all synthesize material in the topic that you care about, that you think will make a difference in your life; and second to be able to pay it forward. It has to have reference to research. This is not just a personal story or an autobiography. It has to have reference to research. In addition to, of course stories that you think capture the point. Probably the most effective way of communicating an idea is through stories. You know, you'll probably not remember ten years from now, the research on self-efficacy. But you are much more likely to remember the story of Roger Bannister. So people remember stories. They connect to stories. But at

the same time, this is an academic paper.

We want to bridge the Ivory tower and the Main Street. So have references to research. And these are the things that would be optionally: you can have film clips- if you have a film clip in it, it's a 10 minute film clip, it doesn't count as part of the 10 to 30 minutes. Especially if you have 20 minute film clip unless you are giving a lecture, which is fine. And include exercise. So if this is a workshop, what exercise would you do? Would you have, you know participants express gratitude to one another? Would you have them writing a journal? Would you have them go out and exercise physically later? So include exercises as well. Here are the dates. So this is em... These are your deadlines, or rather, your lifelines in this project. March 20th, just before spring break, all you need to do is let your TF know your topic. One word, one sentence- it's gratitude. It's spirituality. It's mind-body. Specifically physical exercise. Just let them know. Now you may change that a week later or two weeks later. But we just want you to start honing and thinking about what your likely topic will be. So that's March 20.

April 7- give you some time after spring break, so you don't have to work on it over spring break, though we hope you'll at least think about it and read some stuff over spring break. April 7: one page outline. A draft of your topic. Again, this is not graded. This is just for you, meaning pass/fail. So you have to hand it in. Just for you. Then you can talk to your teaching fellow about it. By May 3, give the presentation to at least three or four classmates. If you are in extension school, give it to other people. And ask them for feedback. And you'll get feedback- ideally, written feedback. We'll talk to you about the process later on when the time comes. Again, this is not graded. It's for you. It's for you as well as for the participants, because you are paying it forward. It can be a rough draft. It is a rough draft. And I'll give you feedback and say, "you know, what I thought was missing is maybe an extra story or I felt like you were

not grounded enough in research." Or, you know, "introduce a little bit more energy." Or whatever it is. Get feedback from them to help you. And then the week later, the final project will be due. Any questions about this? If you have a question, probably others have the same questions. So any questions about the final project? Ok. Think about it. Yes. Question.

No, it's not in section. You will actually... Ok. So the question is where do you make the presentation. You'll have to get together with your group, the other three or four, probably be three. And give each other the presentation. If you want to do it with powerpoints and the whole thing, that's perfectly fine. If you just want to read it or speak it, that's perfectly fine too. Your choice is whatever you think would be most helpful to you. Again, this project is for you. It's for you and for others hopefully who will benefit from hearing what you have to say. Students who have done it- we've already done it for the last two years. The first year I taught it- we just had a regular paper. And the students enjoy this process so much more and get so much more out of it and it stays with them. Because it's something you can take, again, pay forward also when you are done here. Other questions? Yes. Dr. Tal Ben-Shahar: Yes. Good question.

So are you supposed to narrow down a topic as opposed to being very general life spirituality? Up to you. Up to you. You can give an overview and then, at the end of your presentation, say, you know, these are some of the interesting studies, but if you want more information, you know, you can look there. Or you can do something very particular. So the benefit of church going. Or the benefit of Arabic exercise. It can be very specific or much more... Or the benefit, psychological benefit of Arabic exercise. So it can be very specific or very general. Up to you. Whatever you think would be more interesting to you. And what often happens when we found this is that once you get into the literature ,you are going through info- you'll read a lot of studies

there. That's when you understand, "OK, I have so much material on just this specific point I am going to focus here." Or I really want an overview of this whole topic. And then in later presentations, or I'll create a whole class just based on this topic later on. Or website. There are actually many students who created websites based on their projects. There was another hand up there. Or were you just saying hi? Hi. Yes. They can't hear you. For extension students all over the world, you are going to pick two or three people anywhere, family, friends, whoever it is but people who will be "beautiful enemies" to you, who will give you real feedback. Because they care about you. Good. Alright. No one else? Alright, if you have further questions, ask your TF or ask me. (A student sneezes.) Bless you.

Change. In many ways, we've been talking about change the whole class. This class is about change, as I said on the first class, I wouldn't be teaching it if I didn't think people could change. And when I talk change, I am talking about different levels. Whether the change in terms of introducing a habit: I want to start exercising for three times a week. Why? Because as you'll see from a few weeks from now, exercising three times a week has the same effect as some of our most powerful psychiatric drugs. Or let's say habit you want to introduce is you know, I want to introduce spirituality to my life. Or change could be "I want to be happier". I want to experience less anxiety. General anxiety or specific anxiety, before tests. Whatever the change you want to introduce to in your life, there are certain patterns, certain approaches that work, certain approaches that don't work. What we are going to do next two classes, two and a half classes is differentiate what works and what doesn't so that you can apply it to your life.

So first of all, we've talked a lot about change. Let's recap some of the things that we discussed. First of all, on the second class we already mentioned this, that change is hard. And there are a lot of studies to show how hard change is. The twin research.

Remember the conclusion. Try and change your happiness is as difficult and futile as trying to change your height. Now even though they went back on their word and they said "well it's not really impossible and futile", still what they did show in their studies is that it is very hard. The twin studies. Happiness is a stochastic phenomenon. Then Daniel Gilbert's work on affective forecasting. Yeah we experience it an up after we get tenure or after we get into Harvard, and we experience a down when we are rejected by whatever it is. But then very quickly we go back up to our base level of wellbeing. And most of our life looks like this around this straight base level. It's very difficult to get an upward trajectory. It's possible through coping for example, but it's difficult.

The Cambridge-Somerville study- 5 year intervention that ultimately led to negative change, whether there's more alcoholism among the people who did go through that intervention with bright in the best. Psychologists ,psychiatrists, social workers, programs. So we know change is hard, whether it's on the individual level or on the society level. However, we also know the change is possible. We know that many of the people who argue that change is not possible are making the error of the average, looking at the average score as opposed to out-layers, as opposed to people who have introduced change. And when we study change, it's the exception that proves the rule. So if change is possible and some people have been able to change whether it's through therapy, whether it's by reading a book, whether it's being a part of the class, whether it's through conversation- sometimes it's a single sentence that makes a difference to their entire life, they are the exceptions. But the questions are no longer whether or not change is possible. The question is "how is change possible". And this is the question we are going to address in much greater depth on a higher level of the spiral in these lectures.

What does change look like? Let's go micro here. Let's go to the brain level. How

does change actually look like? What happens in our brain when change occurs? Until 1998, neuro scientists thought that the brain was essentially fixed. We are born with certain neurones, certain pathways. The brain doesn't grow, doesn't change pass the age of, say three Maybe first a few experiences the brain still changes and evolves But after the age of three, no change. And this theory which was held until 1998- I mean that's not so long ago, this theory gave credence, and actually proved positive for "happiness is a stochastic phenomenon". You are born with certain genes. You are born with certain inclinations with certain neurone pathways. You have a few experiences that really affect you a great deal, as Freud argued. And then the rest of your life, you are going to just fluctuate around that same level. No change. That was until 1998.

In 1998, scientists started to notice that the brain actually does change. And they came up with the concept of neuroplasticity. Neuroplasticity are nuerones are plastic- they change. Not only that, not only do the pathways change in the brain- and we'll look at it in a minute, but also they've come up with another concept, which is neurogenesis. Neurones develop, are created throughout our lives until the day we die potentially So it's not the fact that we are born with certain number of neurones and it's downhill from there, as conventional wisdom had us to believe- as many people still believe today. No, neurones are developed and grow, emerge throughout our lives. The brain, it turns out, in many ways is like muscle: use it and you don't lose it. Use it and you generate, you build the muscle up. And the question is how do we use it so that it becomes an assistant in a way, help toward becoming happier. So let's look at what the brain actually look like.

What it looks like is that there are millions of channels inside, neural pathways, connections between different neurones in brain that look something like this. As you can see, some are very thin, are relatively new. some are much thicker, much more



established. And the way it works in many ways is like in nature. You have large rivers, large channels. And you have tiny rivers and tiny channels. And what happens is that every time a connection is made between neurones- in other words, your thought pattern follows a certain path. That path grows. Just like a river- every time the water passes there, it gets this much, this much wider. And when there is no water there, there is no work being done in the neurone, metaphorically speaking, it shrinks a little bit. So neural pathways grow with use and they shrink when there is no use. If it's something new, a new neural pathway that was just created because remember- there's neuroplasticity. Neural pathways are created constantly. There is neurogenesis. New neurones are created constantly. Initially it's very thin. Let's say for example, I study French. And I learn a new word. A new connection is made in my brain. Now if I hear the word once and never again, the neural pathway will disintegrate, will disappear.

However, if I continue hearing that word over and over and over again, after all it will become thicker and thicker. Ok this is a way over simplification of the real process. But it will become thicker. And then I'll remember it for the rest of my life. It will be established like a river that is established, as opposed to a tiny stream and trickle that can disappear in a day. And here is the key aspect for understanding how we can change our thought, how we can change our wellbeing ultimately. The neural pathways are self-reinforcing, just like rivers are. Think about it: when it rains, when there is a down pour, the water gravitates toward the existing river, toward the channels, toward the drains that we have built. It's much less likely to create a new river or a new stream with there's nothing before. So the experience is much likely to gravitate to already established neural pathways and strengthen it further, as opposed to create new neural pathways, which is why if we want to remember something, it's very good to make connections to other things, to existing neural pathways, to existing memories.

Let me explain this again, because this is important to understand. Because understanding this can actually... this is something that Carol Dweck, professor at Stanford showed and understanding this neuroplasticity, understanding how we actually can change can make us more likely to succeed in one of the ways of success-to actually become happier. So it's important to understand. And established neural pathway attracts more action and it attracts more action and gets thicker. Something that's not established, a tiny little stream is more likely to be just wiped away.

As it grows more, it's more likely to stay, not just stay, grow even more. It is self-reinforcing. And this is what habits are. When something is reinforced over and over again, it becomes a habit. For example, you play tennis and you hit the forehand over and over and over again. Initially you have to think about it. You have to concentrate. You have to, you know, maybe cock your wrist a little bit, maybe understand exactly where you stop the racket, but after a while, after doing it hundreds of, thousands of times you don't need to think about it anymore. It's already grooved. And the word that I used is grooved, specifically because you essentially created a new channel. And whenever a ball comes toward you, automatically you don't even need to think about it. It gravitates. Your mind gravitates toward that particular path or paths, many paths that tell you "lift it up and hit". It's automatic. Same with music. And what it has shown is people who practice music regularly or practice a sport regularly, their brain actually changes its shape. More neural pathways are created around these areas that mean "let me play a C now" or "let me move my fingers in this way" based on something that I see on the page. Certain neural pathways are created, and the brain actually becomes thicker in these areas. Or more experience flow in: the more we do it, the more they flow. Until it becomes grooved and I don't need to think about how to play C-.

It's automatic.

They did a research. This was the first research, one of the first research projects where they found the brain actually changes. They took taxi drivers or freshly minted taxi drivers from London And what they had to do, to become, to get their certificate, their approval, they had to study the map of London. Now the map of London is much more complicated than study the map of New York. Those of you who have been to London. But they studied and they spent a lot of time. What they found was the brain, part of their visual cortex actually changed from before they started to study the maps of London to after. Because they were working that part of the brain. They had experiences. And these experiences created grooves inside their brain, so when someone said "Oxford Circus", immediately they knew what street they need to take to Oxford Circus. Their brain actually became bigger. It changed their neuroplasticity. And that's wonderful news. It's really wonderful news.

Because it means we have control. And we can introduce change. Now in our brain, there are both healthy and unhealthy pathways. So for example, some of the negative channels may be one of the constant worrier- someone who worries a lot. That every time something happens, immediately they gravitate to "ok so what does that mean for the future?" Or "what does that mean now for my prospects?" "What does it mean for today?" Constantly worrying about things. Even good things very often. They immediately interpret it as something to be worry about. Or fault finding. That's pathways in the brain where I look for- again they are self-reinforcing- I begin to look for in my world things that go wrong.

Remember my personal experience where I got the fellowship as a senior here. And I got the fellowship and immediately my brain gravitated toward "Ok but why didn't I get the other one?" I had so many things to be grateful for. But it's the fault finder immediately the neural pathway, the river this experience fell into was the largest one. And the largest one for me at that time was being a fault finder. Then

there are positive channels as well. What are the positive channels? Benefit finder. A person who is able to find benefit even in the hard circumstances. May not say that the things happen for the best, but something, but people made the best of things happen. The optimist. Again, much larger, much wider channels for optimism. And the experiences gravitate toward there. Today we know much more how the brain works. And where these channels exist?

so let me give you an example of the one of the things we know. One of the things that we know is that people who have more action on the left side of the prefrontal cortex, compared to the right side of the prefrontal cortex, are general happier. More susceptible to positive emotions, more resilient in phase of painful emotions. More activation here- prefrontal cortex, compared to the right side of the prefrontal cortex. People who have more activation on the right side compared to the left of the prefrontal cortex are generally more depressed. Now we know that today because we have FMRI, because we have EEG. We can see how much the brain works on each side. But we knew that already hundreds of years ago. We knew that this side is associated with positive emotions, and more activation on this side of the front, is associated with painful emotions.

How? Because when people, for example were in an accident, and the accident happened to them and the left side of the prefrontal cortex was damaged, very often they became more depressed. Because they had more activation on the right side as a result. In comparison, people who had an accident on the right side on the other hand, on the right side, very often, became happier. Now I don't recommen this as an intervention. Don't try it at home without your parents or with your parents. However, if you walk in the street, and you happen to fall, it's always better to fall this way. So just keep that in mind. Important thing to keep in mind then is that very often the same trigger causes very different reactions. Again the world is not just the external

world. It's also the internal world. Remember to the same mind, as Emerson said, the same world can be... or to the different minds, the same world can be a heaven or a hell. Depends on what that experience gravitates toward. Over the years, I've become a much more, much more of a benefit finder through the exercise, through thinking about it, by writing, keeping a journal, by physically exercising, I become much more of a benefit finder. I've done a lot of work in that.

One of the great fortunes in my life is that I married a consummate benefit finder. Tommy, my wife doesn't have to work that hard at it. So for example, we would come back from a party. And there was someone at the party who couldn't stop talking. Have you encountered a person... Well, couldn't stop talking. And I just about to tell Tommy you know, this person just couldn't shut his or her mouth. And what would she say before I open my mouth? She said, "see how wonderful that person was and he or she is so passionate about what they do?" So for me, it was talkative. For her, it was passion. Again, automatically going there. There is a genetic set point- and we'll talk about the genes- that lead some people to be much more benefit finders than others But at the same time, we can work on it. We can work on it, pathway by pathway. And what we are doing there is quite literally transforming the brain We'll talk about during the week on mindfulness meditation that meditation- for instance regular yoga- actually makes our.. changes the pathwaya in our brain, makes it more active on the left side compared to the right side. Makes it more susceptible to positive emotions, more resilient to the phase of painful emotions.

We can change the brain. Neuroplasticity and neurogenesis. We are going to talk about two types of change in this next week. The first type of change is the gradual approach. This is the change of gradually chipping away excess stone. This is the change that we see in nature with the water sweeping away the stone, making it thinner over time, making it smoother. The gradual change. This is the change we

mostly see in the world It's the healthy change. There is no quick fix. It takes time. However, the change process can be as enjoyable as the outcome. Think about how to learn to play musical instrument. It takes time. It's by the way the same process, because we are creating new neural pathways in our brain, when we are learning musical instrument. We can enjoy the process that ten years that it takes us to get to play in a concert in Leverett JCR.

We can enjoy the process of getting there before we are there. So the change process in and of itself can also be fun. We can enjoy the journey as well as the destination. It takes time. A lot of time. Then there is also the acute approach to change. You know if the metaphor for the gradual change was the water breaking down stone, the metaphor for acute approach is taking a sledgehammer and breaking the water, breaking the stone. You know what Moses did. The acute change. Takes... Doesn't take much time. It happens immediately. But the important thing to keep in mind, with the acute change is it's not a quick fix. The acute change, very often, takes a lot of preparation, metaphorically speaking- You need a lot of strength to pick up the hammer and to have the power to put it down. So it takes time. Both take time. And that's important to keep in mind. Why?

Martin Seligman: "The belief that we can rely on shortcuts to gratification and bypass the exercise of personal strengths and virtues is folly. It leads to legions of humanity who are depressed in the middle of great wealth and are starving to death spiritually." This is one of the main reasons for the unhappiness in the world today. I alluded to it but I want to elaborate it a little bit more before we end. How many here have read, by the way, the Seven Habits of Highly Effective People, Stephen Covey. Ok. Quite a few. It's a wonderful book. One of the best, if not the best self-help books out there. Stephen Covey at the beginning of the book talks about the research that he did for his PHD. And what he did was look at the success literature of the last 200



years. And what he found was that there was a real cut-off point in 1930. Until 1930, 19th century and the beginning of the 20th century, self-help was about character change.

It was about changing who you are from inside. It was about struggling in hard work and failing and going, getting up again. Going through hardships. And changing step by step, slowly, gradually. 1930- radical change. From character change, it became quick fix. Thinking grow rich. How to win friends in influential people. Do it now. The secret- quick change, immediate change, easy change. And from the 1930s, what we see is a decline in people's level of well being. Much more depression. Much more anxiety. And one of the reasons is that. That people hope and believe that they can find quick fix. There is no quick fix. It takes time. It takes time to change. However, the change process can be as enjoyable, as fun, as exciting as ultimately achieving the change. And next week we'll talk about that wonderful process. Have a good weekend.