

Applied Positive Psychology

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Week 4

Lecture 11: The Psychology of Flow

I welcome you all to Module 4 of this course titled Applied Positive Psychology. Module 4 is about mindfulness and flow. So we are discussing these two concepts individually, as well as their relationship in this module. So this is the second lecture of this module, and overall, this is lecture number 11. So today we will talk about the concept of flow. So, in the psychology of flow, we will be discussing the various dimensions of these concepts.

So, before we talk about today's lecture, let me give you a brief recap of the last lecture, which was lecture number 10 and the first lecture of this module. So, lecture number 10 was about the concept of mindfulness. We discussed what the meaning of mindfulness is and what its historical roots are. What are the therapeutic effects of mindfulness? We also discussed how mindfulness is very effective in dealing with thoughts and emotions, especially destructive thoughts and emotions, and how it helps us regulate emotions. And at the end, we discussed some of the possible practices that we can do to enhance mindfulness in our lives. So these are some of the things that we discussed in the last lecture.

In today's lecture, we'll focus on the concept of flow. So we'll be discussing the meaning of flow and how psychologists look at the concept of flow. We'll discuss some of the models of flow and the conditions that are necessary for flow to happen. We'll also discuss various dimensions of flow and the activities that are conducive and those that are not conducive to flow. And we'll also be discussing what the consequences of flow are, psychological consequences. And at the end, we'll be discussing some of the dangers of

flow. So, these are some of the things that we will discuss in today's lecture. So, let us start today's lecture. Now, in order to understand the concept of flow, there are just a few questions that I am asking which will kind of contextualize this whole concept in our daily life experiences. So have you ever experienced moments in your life that were so involved and engrossing that in that moment the rest of the world seemed to have disappeared? Your mind wasn't wandering. You were totally focused and concentrated on that activity to such an extent that you were not even aware of it. So you completely forgot about yourself. Time seems to disappear, or sometimes time seems to move very fast. Hours may seem like minutes. Only when you came out of the experience did you realize how much time had actually passed. I am sure most of us have experienced moments in our lives like this when we are so engrossed in some activity that all of these characteristics are present at that moment, like the whole mind being so focused and concentrated that the whole world seems to have disappeared; the mind is very focused, and time seems to have disappeared. You also kind of forget yourself, and so on, so these are some of the experiences that depict this- the flow experiences.

So if you have experienced such moments in your life, that means in that moment you have experienced this concept of flow in your life. So, the concept of flow in the field of psychology was popularized, and this research in this area was started by a person named Csikszentmihalyi. He was the main person behind this whole concept, and he started this whole concept of flow in terms of research and so on, and his book, "The Psychology of Optimal Experience," is still available and is one of the bestsellers in terms of the number of copies sold. So this shows that this is a very popular concept, and it has also been applied in various dimensions of human endeavors and so on. So, let me give you some of the background story about how this concept came into existence.

So, this flow state was first discovered by, as I already said, by this person; it is difficult to pronounce his name: it is Mihaly Csikszentmihalyi, who popularized the concept through his bestseller- Flow: The Psychology of Optimal Experiences. Based on his experiences in the research, he wrote this book, and it became a bestseller; as a result, this whole concept became much more popular. So Csikszentmihalyi, in 1975, began his

research on flow with a rather simple question: why are people often highly committed to activities without obvious external rewards? He found that such activities share a common aspect, which he labeled as flow state or flow experiences. So he was trying to understand why sometimes people are so engrossed in activities like those of artists, painters, and so on. Even if there is no external reward for this, why do people experience such states, so engrossed, so committed, so focused? even when there is no explicit external reward for such activities. So that was his question, and from this question, he started doing research, and the outcome was this whole understanding of the state of flow. So he was very much fascinated by artists and their unwavering concentration and wanted to understand the subjective experiences when people are in such a state. So he was trying to understand what happens in their mind when they are in such a state. What are the conditions that lead to such a state? So these are some of the things that he is trying to understand through his research. So Csikszentmihalyi began his research on psychological well-being by exploring how people felt during all of these enjoyable activities.

So, through interviews with over 200 individuals engaged in activities like chess, basketball, dance, music composition, and rock climbing, he gathered descriptions of moments when everything felt effortless and perfectly aligned. So, he interviewed people from diverse areas, but mostly from creative activities and sports, and people who experience such moments very frequently. He took interviews with them, and he was trying to understand what leads to these kinds of experiences and what happens to their minds in terms of when they experience such a state. So these individuals, often involved in their pursuit without financial reward or recognition, describe being fully immersed, experiencing intense joy, and performing at their best. Many of these individuals may be engaging in these activities mostly for their own hobbies, not because of any explicit financial benefits, and so on.

Analyzing all these accounts and the interview contents, he identified a distinct state of consciousness characterized by total engagement and intrinsic motivation. He initially called it as autotelic experience but later he named it as a flow state. So from this

understanding with all of these people who experience such a state, he then later conceptualized this state as a flow state. Initially he called it as an autotelic experience and later he called it as a flow state. Now, what is this flow state? We have kind of understood what flow state is, but let me give you a more technical definition as given by Csikszentmihalyi.

So, according to Csikszentmihalyi, the flow state can be defined as a holistic sensation that people feel when they act with total involvement. So whenever people act or do any actions with total involvement and engrossment, that holistic sense occurs in a mental state called a flow state. He also defined it as an intense experiential involvement in moment-to-moment activity, which can be either physical or mental. So this flow state can happen in mental actions, any mental tasks, or even physical tasks like sports, and so on. Here, attention is fully invested in the task at hand, and the person functions at his or her fullest capacity. When people are in such an engrossing state, the person's functioning aspect becomes the highest. So they act at that time to the best of their abilities. Another statement about flow was given by Csikszentmihályi. Again, it is a state of concentration so focused that it amounts to absolute absorption in an activity. Everyone experiences flow from time to time and recognizes its characteristics.

People typically feel strong, alert, in effortless control, unselfconscious, and at the peak of their abilities. Both a sense of time and emotional problems seem to disappear, and there is an exhilarating feeling of transcendence. So in this definition, he is talking about some of the characteristics associated with flow state, like how a person typically becomes alert, very effortless control happens, the action automatically flows out of them, and the whole sense of focus on self disappears. And you almost merge with the action; people are generally at the peak of their performance, and so on. So people also forget their emotional problems, and so on. They remain almost in a state of transcendence. So these are some of the descriptions of the flow state, along with some of the definitions given by the founder himself of the concept, who is the founder in terms of research in this area. Now, this state is a new thing in terms of academic research, but it has always been discussed by athletes and other people. Such experiences were

commonly described by people in those cases where the flow state was described using different terms. For example, an athlete is referred to as being in the zone.

So a lot of athletes, when they perform at their best, generally have people call it that they were in their zone. So they are basically talking about the flow state in that moment. Religious mystics sometimes also describe an experience called ecstasy. Artists and musicians call it an aesthetic rapture. So these are different terms that people in different domains use, but all these terms actually indicate the same state, which is called a flow state.

So it is a full involvement in flow rather than happiness that leads to excellence in life. So in the flow state, this full involvement is what enables people to function at their best. We can be happy experiencing the passive pleasures of a rested body, warm sunshine, or the contentment of a serene relationship, but this kind of happiness is dependent on favorable external circumstances. So what is stated here is that in a flow state, there has to be an active involvement from where it flows; the action flows, and the resultant happiness and functioning state occur. There are many times when we experience happiness in life, which is a very passive state; when all the external conditions are favorable or all are in the right condition, then we experience a certain state of happiness, but it depends on the external conditions. Flow is something that you create; it requires active involvement and focus. So, happiness that follows flow is of our own making. So the happiness that comes from flow is due to our own involvement; it comes from inside of us. It is not due to some external condition. And it leads to increased complexity and growth in consciousness. So it has so many positive impacts that we will be discussing in a few slides later.

Now let us see some models that describe the flow state. So, there was the original model that Csikszentmihalyi proposed based on his experiences with people who frequently experience flow state. He represented the relationship between perceived challenges and skills; three regions of momentary experiences were identified. So, what Csikszentmihalyi found out and proposed is a model for flow, describing the conditions under which the flow state occurs.

So, that is what he was trying to map out in the model. So, there was an initial model, and the slight changes happened later as well. So, in the initial model, basically what he said is that this flow state depends on two important things: one is the perceived challenges. To what extent do you feel a sense of challenge when you do a task and use your skills? To what extent does your skill match the task? So, these two factors are very important in the flow state. So he stated in the original model that there are three possible conditions that can happen. One is the flow state when challenge and skill are matched. Flow state occurs when there is a necessary challenge involved in the task. So the task will not be very easy for you. You have to stretch yourself, your skills, and your limits. But it will not be impossible for you either. So your skills will match the challenge. Although when we say that something is challenging, we are saying it is not easy. You have to push yourself. But then you can stretch because you have the necessary skills to do so. If you don't have the skills to do that, obviously this will not lead to a flow state. You will feel frustrated, and so on. So there has to be a necessary balance between the sense of challenge and the skill. Only under those conditions of task is the flow state experienced. Other states that can happen based on the challenge and skill is boredom, which occurs when challenges and opportunities are too easy relative to skills. So when your challenges are very few compared to your skills, people may not find it very exciting to do. So, the task is too easy, and the person has a higher skill level. Then obviously it is not matching, so the person may do it; obviously, he or she can do it, but then it will not be the flow state; however, the person will most probably experience boredom. Another thing that happens is called an anxiety state, where demands increasingly exceed capacities for action. Anxiety is experienced when the sense of challenge is too high, as compared to your skills. So, your skill does not match the task. The task is too challenging and your skill is not at that level; therefore, one may experience feelings of anxiety and so on. So, this model says these are the possible conditions that can occur. So, this is graphically represented in this figure. So, this side shows the challenges of a task, what the level of challenge is; as we go up, the challenge increases. This side, on the horizontal line, shows your skills, so as we move from here to here, your skill level increases.

Based on this combination of challenges and skills, you can experience either boredom when your skill is very high and the challenge is very low; flow state happens when these challenges and skill levels match. As the challenge increases, skill also increases, and then the flow state will be experienced; anxiety is experienced when the challenge is too high and the skill is very low. So this is where anxiety is experienced. Later, this model was also slightly modified, and another condition was included, which is sometimes called the four-channel or quadrant flow model, stating that there can be another condition called apathy. When the challenges are low, the skills are also low. So this could be a fourth condition that can occur based on the combination of challenge and skill. So these three, we have already discussed: boredom, flow, and anxiety. Now, the fourth condition is called apathy. It will happen when the challenge level is very low and the skill level is also very low. The person will not have any interest in it. So, the sense of apathy will persist. So this is also called a quadrant flow model or four-channel model. So, this is a little bit complicated. Addition of one more factor to the original model. This model was also made a little bit more complex, and more conditions were included.

This concept of flow largely still remains unchanged over the past 25 years in terms of the model. However, the model of balancing perceived challenges and skills has been refined by Delle Fave, Massimini, and colleagues. They refined it a little bit more, which is also described mostly with similar things, but with more description and an addition of factors through the experience sampling method. The experience sampling method is basically when you ask people to report their experiences immediately in their day-to-day life whenever they are experiencing something based on the research; they have to note it down as they go through their daily life experiences. So some machines are given that will beep at certain intervals of time, and you have to report and write your experiences. So this is called the experience sampling method. So they found that the quality of momentary experience increases as challenges and skills exceed an individual's average level. So in this model, what they are saying is that they are basically putting the condition of the average level of an individual's skill. So we all have certain skill levels, so there is an average skill level. And they are saying that the quality of momentary

experience increases as challenge and skill exceed that average level. So they are using the average skill level, including another condition. So the condition of flow will occur when the person moves beyond the average level of their skills and the average level of challenges. For example, playing chess with a highly skilled opponent may foster flow due to increased challenge, while playing with a beginner may not. Simply because the challenge has increased, as somebody is a very professional chess player, and you have to play against that. So, obviously there is a more likely chance that you will experience flow compared to, let us say, somebody who is a beginner, especially if you are also a pretty good chess player, and so on. So, this model is shown like this with concentric circles. So, here it is the average condition of skills. So, this is the point where the challenge level is average and the skill level is also average. As we move out all this condition actually increases. So, if you move here, the sense of relaxation will increase, flow will increase on this side, arousal will increase, anxiety will increase, worry will increase on this side, apathy will increase on this side, and boredom will increase on this side as we move from the center to the outside. So this is what this particular diagram is showing: the conditions of flow with a greater number of conditions and possibilities. So, for example, here they are showing, let's say this is your average point of experience or skill. This is a task that requires average skill and presents an average challenge. As the challenge increases here, and as it increases a little bit, the skill also increases; as you move here, the possibility of a flow state is likely to happen. Similarly, there is also the possibility of more control over the task; what is happening is that your skill challenge is decreasing, but your skill is increasing a little bit. Therefore, there is a possibility of relaxation here, and boredom can happen when your challenges are decreasing. And skills are also, even let us say your skill remains the same, but challenges are decreasing here. So boredom is likely to happen and so on. So apathy will occur here, and worry will increase here. So as challenges increase, skill decreases. So, these are the various diverse conditions that are shown in this model, which describes the flow model in a much more complex way. So, this model is visualized using concentric circles, as we have seen around the central point, which represents a person's average level of skill and challenge. So, that center point is the depiction of the average level of skill and challenge. The intensity depicted by these concentric rings of each experience—*anxiety, arousal, and*

relaxation—increases with distance from a person's average level. So, as we move from this central point to any side all this condition actually increases. So, here, as I have shown, we move here. So, this will increase; move here, this will increase, and so on. So, these are all as we move from the center to any areas. So, those conditions whatever is written here will increase. So each ring outward from the center represents higher intensities of experience as challenges and skill exceed average levels. The closer an individual is to the center, the less intense the experience is. The farther out they go, the more intense it becomes. So all these experiences that we have shown here—flow, control, relaxation, boredom—their intensity increases as we move from this center. So, apathy is experienced when perceived challenges and skills are below a person's average level. So, this is where apathy is experienced. So, the task requires below-average challenge, below-average skill; therefore, the person is not experiencing much; mostly, they are experiencing apathy and there is not much interest in it. When they are above, when the challenge is also above the average, and the skills are also above the average requirement, then flow is experienced. So this is a more updated model on flow. So this is reported again here. Flow is experienced when personal skills and challenges are above average and well matched.

In addition, interest in the particular activity is very important. For flow to happen, you must be interested in the task. Otherwise, flow will not happen. Even if your skill is very high, and even though the task may require high challenges, if you are not interested in the task, then flow will probably not happen. So some researchers suggest that interest in the task should be considered a precondition for the appearance of the flow. A person, for example, who does not enjoy chess may have a more difficult time gaining a flow state, even if their skill level is high enough to theoretically mean that they should be able to reach flow.

So the necessary internal interest towards the task is also very important to experience flow, apart from challenge and skills, as some research actually suggests. But most of the models show these two conditions are very important. What is your perception of challenges and what is your skill level? Does it match that challenge? So that is very

important. Apart from that, your interest in the activity is also very important.

Now let us see what the conditions for the flow are. So one condition of this model is very clearly shown. These two conditions are very important. When we encounter a challenging task, it tests our skills. That means it matches with our skill, but it has to be extended. That is a task that is high in challenge and the skill level stretches us almost to the limit. We may experience anxiety if the challenge exceeds our skills. If the challenge is too high, then we will experience anxiety and boredom if skill exceeds challenges. If we are highly skilled and the challenge is very low, then in that case we experience boredom. Neither of these two cases can result in the experience of the flow. Flow conditions are stated very clearly. Now there seem to be three common elements in flow, definitions, and experiences. So if you look at all the experiences of flow in our lives or in the research description, these three elements are commonly reported by people. One reason is that people experience a sense of deep involvement and concentration. So whenever flow happens this condition is present. Deep involvement and concentration are essential.

Second, the feeling of ultimate enjoyment while doing the task. So this sense of enjoyment is very important. Flow happens when you enjoy the process of doing the task. It will never happen if you don't enjoy the task. So there has to be an internal interest in doing the task as well. So I feel ultimate joy while doing the task.

The third condition is intrinsic interest in the task, which is connected to joy actually. So, doing the task for its own sake and not because of external pressures or demands is important. So, when we do a task because we want to do it, there is an internal motivation in doing the task. You are not doing the task simply because somebody is saying it or there is pressure from the outside world; then the flow is less likely to happen. Flow is more likely to happen when you initiate the task; you are motivated to do the task. So there is a sense of internal interest. So, these three conditions are very important in all the flow definitions and all the flow experiences that people report. There is a deep sense of involvement and concentration. People also enjoy doing the task, and there is an internal interest in it.

Now let us talk about what the dimensions of flow are or what the characteristics of the flow experiences are. So whenever we experience a flow state, what happens in our mind? What are the characteristics and dimensions of those experiences? So Csikszentmihalyi, from his research, conceptualized the flow construct in terms of nine dimensions. He says that in the flow experiences, there are nine dimensions. The first one that we have already discussed is the challenge and skill aspect, which is the challenge and skill balance. So the necessary balance has to be there between the tasks and your skill. So in the operational starting point for flow, challenges and skills in a situation are balanced. your ability to do the task and the necessary challenges to match, then flow will happen. So this is the first dimension of flow or characteristics of the flow to happen.

Second, there is a merging of action and awareness. So there is a sense of your sense of awareness and the action almost becoming one. So, action and awareness merging refers to a profound sense of unity between the person and the activity. So almost you get identified with the task. You are no longer present as a separate individual. You almost merge with the task. So that is another aspect of the flow experience. So they are performed. When individuals experience this dimension, they often describe feeling completely immersed, as if they are one with the task at hand. As if they were one with the task at hand. This merging of action and awareness is frequently associated with the experiences of flow and is commonly described as bringing a sense of peace and harmony to the activity of active engagement. So that also happens as an identification with the task because when you get so involved and engrossed in any task, the identification of the task occurs. You are no longer a separate individual you almost become the task. So that is another thing that happens in the flow state, or that is a dimension of flow.

The third is that there is a sense of clear goals and clarity of purpose when flow experiences happen. So it refers to having a well-defined objective that keeps a person focused and engaged in the moment. This clarity allows individuals to stay connected to the tasks and respond effectively to important cues. Alongside clear goals, individuals also continuously process their performance. Evaluating their progress in relation to these objectives. So there has to be a clear goal and purpose. The more clarity you have, the

more likely you are to experience a flow state. Because if you are confused about what to do and what you are doing, then obviously your engagement will not be at that level for flow to happen. So there has to be a well-defined objective that keeps the person focused and engrossed in the task. So for flow to happen, there have to be clear goals; clarity in the purpose of doing the task is also a very important dimension.

The fourth is unambiguous feedback that makes it very clear how you are doing the task. So being in a flow state means receiving information that is straightforward and easy to understand. This type of feedback allows individuals to effortlessly process and adjust their actions. So if you get very clear feedback on how you are doing, whether you are progressing and so on, either from other people or from the internal feedback you receive, how are you progressing on the path? If you don't know yourself, then obviously that sense of focus will not be there. So if you're doing a task and then you get very clear, straightforward feedback on how to proceed and what level of performance you are having, then this all helps you adjust your actions accordingly so that you achieve your results and so on. So, whether you remain on the right track and maintain optimal performance. So feedback also plays a very important role. Feedback has to be unambiguous, clear, straightforward, and so on. If you receive feedback, then it is more likely to create a flow state.

Fifth is concentrating on the task at hand. Obviously, by definition, flow means you are highly concentrated. It is the hallmark of being in a flow state, where one's attention is fully absorbed in the present activity. This intense focus creates a deep connection with the task, embodying the essence of the flow state. Maintaining this present center of focus is crucial as flow arises from being fully immersed in the moment. Setting the stage for the next dimension of flow. So focus is very important. And generally, focus will happen if you are interested in the task. We struggle to focus when we are not interested in a task. So if you are interested in a task, if you are internally interested, focus naturally or spontaneously comes about. So that is another aspect to know. That is why, for flow to happen, interest in the task is also very important. So concentration is something very important. Present moment concentration, which we discussed in the last lecture, is in terms of mindfulness. So that can also facilitate this flow state. Because that is why these

two concepts are discussed together in one module. In the next lecture, we will be looking at the connection between these two concepts.

The sixth dimension of the flow state is the sense of control over one's actions. Whenever we experience a flow state, there is a sense of control over one's actions. So, that means it is a vital aspect of flow arising from a deep connection with the task at hand. This sense of control gives you a confidence, empowering individuals to feel capable and command. If you are in a sense of control, it obviously gives you more confidence that you can change the direction according to your will and bring about the result. If you feel I am not in control, then you cannot change the direction, and you cannot make changes to bring about changes in the result; therefore, the involvement will not happen. So if you have a little bit more freedom in terms of controlling the task, you are more likely to experience a flow state. So this feeling also removes the fear of failure, which often hampers performance, allowing the person to fully embrace and engage in the challenge presented in the activity. If you have control over the task, whenever you are doing it, then obviously your sense of involvement will be greater, because you are also responsible for whatever is happening. So that is also very important.

Then seven is a loss of self-consciousness. This is also one of the common things that people experience when in the flow state; it's basically marked by freedom from concern about others' opinions or judgments. Many times, when we become too self-conscious about what other people will say about our performance or whatever it is, we cannot get deeply into the task simply because we are too concerned about how others are judging us and so on. Then the kind of depth required for flow to happen will not occur in those situations. So what happens when people are in the flow state is that they completely lose that sense of separate self. They are totally engaged in the task, and that is a very important requirement. So in everyday life, people often operate under a sense of being evaluated, which can interfere with deep focus. However, flow involves complete immersion in the task, allowing individuals to shed self-awareness and experience a liberating, undistracted engagement with the activity. So you almost lose a sense of self that is too concerned about others' evaluation. It kind of vanishes when you are in a flow state. So then you are not distracted. So that is what is reported by people as well.

The eighth dimension of flow state is time transformation, which basically means your sense of time changes. So, a flow state refers to a shift in how time is perceived. For some, time seems to stop; for others, it may slow down or speed up unexpectedly. This altered sense of time stems from the intense focus and deep involvement characteristic of the flow state. Because attention is so fully absorbed in the activity, individuals often lose track of time, only realizing the passage of time after the experience ends. So while they are in that task, they get so involved in it that they simply lose track of time. So many times when we are too engaged in a task, we forget how much time has passed. So sometimes this whole day passes, and you may feel like only a few hours have passed. This kind of experience we all had when we were too engaged in a task and with people whom we love, enjoying a particular task or someone's company, and then time moves very fast. Time is moving at its own pace. Psychologically, we experience it like that because our attention is engrossed elsewhere. So this whole experience of time transformation is a common occurrence. More commonly, people experience time running very fast when they're in a state of flow.

The last one is called an autotelic experience. It's the final dimension of flow that represents the deeply rewarding nature of the state itself. It captures the idea that flow activities are pursued for the sheer joy of doing them, independent of external rewards. Csikszentmihalyi coined the term from Greek roots: auto means self, and teleos means goal, or self-goal. It comes from within yourself. To emphasize that these activities are done for their own sake, making the experience intrinsically fulfilling. So, typically, flow state happens when you do tasks that are intrinsically motivated. You do it simply; there is a sheer joy in doing it. Whether you get external rewards or not, that is not an important criterion for doing those tasks. But typically, you do it because you enjoy doing those tasks. So those are called autotelic experiences. This is also a flow state. This is also a very important requirement. When you are intrinsically interested in the task, flow is most likely to happen as compared to when you are extrinsically motivated. So, these are like nine dimensions or characteristics of flow. These are things reported by people when they experience a flow state.

Now let us look at the concept of how to assess flow. In terms of research, people want

to measure it. So how it is measured in the research, let us see some ways to measure flow state among people. Interest in studying flow has led to various empirical approaches because people have become interested in this concept, so then you have to do research. How do you conduct research? The first thing in research is that you have to assess it and measure it. Enhancing accessibility for researchers and practitioners is flawed due to the subjective experience. It's a very subjective experience. How do you measure it? It poses a measurement challenge. As Csikszentmihalyi noted measurement only partially reflects the experience because it's a very subjective state. You experience something very subjective when you become engrossed in the task. So it is not easy to measure such state. Whatever you do, it will be like partial reflection of that, which is still good because at least we are getting some pictures. So researchers advocate using both qualitative and quantitative methods to capture flows of complexity. A lot of research does qualitative research where the researchers interview people and ask them what has happened, what kind of experiences they have, and then they find out things from those experiences. Quantitative methods use standardized questionnaire tools; they ask specific questions, and respondents have to rate whether such experiences happen on a rating scale, allowing for quantitative measurement using numbers and so on. So this early flow research by Csikszentmihalyi and Jackson studying athletes used qualitative methods to identify flow factors aligning closely with Csikszentmihalyi's nine dimensions of models. So all these nine dimensions that we discussed actually came from a lot of this early qualitative research where they interviewed people who experienced flow state and then they created themes out of them.

Quantitative experience basically uses standardized questionnaires such as the Flow State Scale, the second version, and the Dispositional Flow Scale 2, which provides reliable flow assessment across dispositional and situational contexts. So these scales can measure whether you are more likely to experience a flow state because of certain personal characteristics or in a situational context. So these scales can measure that. So these scales validated through factor analysis assess frequency and intensity of flow experiences. So to what extent do people experience those things, the frequency and intensity of such experiences, these questionnaires can measure and give you a score for

each person.

Technological advances now also support understanding flow at the neurophysiological level. People are also starting to look at what happens in the brain when they go into the flow state. Although the research is in its early stage, some early neurological studies by Hamilton and recent research by Dietrich (2004) and others like D. Manzano and colleagues suggest that during flow, regions like the frontal lobe of the brain are deactivated, enabling automatic non-conscious processes. The frontal lobe of the brain is the frontal part of the brain. This is responsible for conscious thought processes, and so on. They found that this part actually gets deactivated. So then, in a flow state, things flow in very automatic, non-conscious processes. So, those are some of the findings related to neurological studies. Psychophysiological markers, such as heart rate and muscle activity, have also been linked to flow. As technology progresses, these insights into flow and physiological undermining are expected to deepen. So these are some of the initial research. We still don't have much neurological or physiological understanding. With the passage of time, we will probably have a deeper understanding of them. So this is how researchers try to assess flow state and make conclusions.

Now let us look at what activities are conducive and non-conducive for the flow state to happen. Which activities are more likely to induce a flow state, and which activities are not conducive to flow? Let's take a look at some of these things from the research. So, activities that can facilitate flow experiences are called autotelic activities because, by definition, they are the activities that are more likely to lead to a flow state because they are mostly intrinsically motivated, enjoyable, and have an end in themselves. So mostly intrinsically motivated tasks have the potential for a flow state to happen. Many activities can be conducive to flow experiences as long as the activity is able to activate a high challenge and high skill situation.

So any activity can lead to a flow experience provided this activity provides the right conditions for high challenge and high skill. So it has to be a challenging task, but at the same time, it has to match your challenge. You have to extend your challenge a bit. It will

not be easy for you, but you have the skills to meet that challenge. So if that condition is met any task can create flow state. So, that is the main thing. And obviously, your interest in the task will add to that flow state. Activities such as sports, dancing, creative arts, socializing, studying, reading, and even working can also create a flow state. Sports, dancing, mostly creative activities, even workplaces, working, studying, reading—everything can lead to a flow state, provided the right condition of challenge and skill is matched. There is an involvement required in these tasks. Activities that are less likely to be experienced and less likely to cause a flow state include mostly housework, idling, resting, watching TV, and so on. So because if you look at these activities, there is not much active involvement. You are doing it very mechanically. Watching TV, for example, you are just watching; there is no involvement from your side. Something is going on on the screen, and you are just watching it. Then flow is not; you may feel happy, but flow will not happen in this state because for flow to happen, you have to actively get involved in the task. So watching TV or idling and resting may be emotionally good for people, but it will not create a flow state because you are not involved in anything. You are just passively looking at something. So in such activities will not create flow state.

Now let us look at some of the empirical research that was done where people have reported flow state in sports and performance domains where there is a requirement for performance. Csikszentmihalyi's 1975 book *Beyond Boredom and Anxiety* introduced the flow concept, and research on flow in sports began to emerge in the 1980s. So after that book's publication, a lot of people have started doing research, particularly in the field of sports. How sportsmen experience the flow state is that sports provide a very good fertile ground for flow, as people are highly interested in the sports they engage in. People are interested, and there is a necessary skill also required in every sport. Challenge emerges in every sport. So sports give you a very fertile ground for the experience of the flow to happen. Flow is particularly relevant in sports, as elite athletes frequently experience an optimal performance state because sports naturally encourage focus on improvement and present athletes with structured challenges and skill-building opportunities, making it an ideal setting for flow research. Sports provide a very ideal setting because they have all the ingredients for flow to happen. Sports often provide

intrinsic rewards because people are generally interested in them, offering a deeply enjoyable experience done for its own sake. It is characteristic of an autotropic activity that align well with the flow state. So, basically, what they are saying is that sports research on flow state in sports was very prominent primarily because it was a very good situation where flow could happen. So some research shows that factors that influence flow in athletes, identified by qualitative research, include things like the extent to which people are motivated, their physical preparation, their confidence, their focus, their mastery orientation, and the extent to which they feel control over the task or the sport; all of these contribute to the flow state. Research has also shown that athletes motivated by intrinsic reasons experience flow more easily especially the athletes who are more intrinsically interested in the sport are more likely to experience a flow state. For instance, Kowal and Fortier found that self-determined motivation was positively related to flow in swimmers, so swimmers who were more interested in the task, more than the external reward, experienced a greater flow state. Studies of older athletes participating in the World Masters Games revealed that intrinsic motivation, perceived competence, and low anxiety were key predictors of flow. So here, intrinsic interest was also coming very predominantly in this research. So these findings reinforced the concept of autotelic personality, where people engage in activities for their own sake, enjoyment, and the inherent rewards of doing so.

So, apart from challenge and skill, intrinsic interest was something that research consistently found, particularly in sports and performance situations. So in other performance contexts, apart from sports, flow was also studied; for example, music performance also received significantly higher ratings from examiners. Those who experienced flow in their music were rated higher by the judges. Creative writers and their flow experiences offer insight into how to facilitate flow while writing. So creative writing also provides a very strong ground for flow to happen, and a lot of research shows that.

Research has also shown that computer-mediated environments, such as web design and online learning, have a very good potential for experiencing flow. Research showed that

compelling online experiences rely on facilitating flow, and the flow experienced by web users was similar to flow in other settings. So flow was reported under all these conditions. The impact of mindfulness in facilitating flow among dancers was also reported, where dancers who practice mindfulness reported a greater flow state. So in the next lecture, we will be talking about this connection between mindfulness and flow in more detail.

So we will briefly talk about some of the consequences of the flow state. So if you experience a flow state, what will happen? In terms of how it will impact you psychologically. So research shows that flow state improves subjective well-being, happiness, life satisfaction, positive emotions, and so on. Flow has been reported to be connected to all these indicators of well-being. Flow is found to be correlated with increased performance, higher motivation and engagement, and a positive mood in an organizational context.

Flow is predominantly correlated with performance. People who experience flow are good performers. They perform at their best. They also report higher motivation, engagement with the task, and a positive mood. All these were found even in an organizational context while people work in organizations and so on. Few studies also indicated the importance of developing an enriching and challenging working environment. So, a working environment that is very challenging and enriching is more conducive to enhancing employee productivity, boosting organizational productivity levels, and so on. So if the organization provides the right environment for necessary challenges in enriching an environment, then the employees are more likely to experience a flow state, and it will enhance productivity and so on.

Why does flow lead to better performance? Why it has always been very strongly linked to performance is that some research shows that flow is always correlated to better performance, primarily for two main reasons. One is that it is a highly functional state. So, whenever you are in a state of flow, you are in your best functional state because you are highly focused and engaged with the task.

So it promotes performance. By definition, the state is highly functional. Second, a person experiencing flow is more motivated to perform further tasks to keep on experiencing flow. And so, this flow state itself is rewarding. And the person will try to get into the state more and more. And since this is a functional state, the more they get into the state, the better performance they will have and the productivity they will experience.

So because of this reason, flow has always been linked to better performance. There could be many other reasons why flow can facilitate a positive mood, which may further promote creativity, positive thinking, and encourage helping behavior among employees; all of these are linked to productivity. Experiencing flow encourages a person to persist and return to the activity again and again, and because of the experiential reward, thereby fosters growth and skills. Flow was also associated with commitment and achievement during high school years. Even in the school setting, flow has been linked to higher achievement and commitment.

Some of the longitudinal research also suggests that mastering challenges in daily life means more flow experiences and may protect against negative outcomes. So if you experience more flow states in your daily life, negative things are less likely to happen. You may not get into negative things; the chances are very low. For example, flow experience was associated with diminished delinquency after two years of high adversity at home and school, in a sample of American adolescents. So adolescents who experienced more flow states, even after some adversities and problems in their lives, were less likely to engage in delinquency, criminal activities, or other negative behaviors.

So flow was protecting them; flow experiences. A little bit, we will be talking about some of the individual differences in flow, which are called autotelic personality. People also differ; not all people are equally likely to experience flow, so there can be some individual personality differences as well. So there can be large individual differences in the frequency and intensity of flow, experiences which may link to both personality and

situational variables. Csikszentmihalyi hypothesized that some people have an increased likelihood of experiencing a state called autotelic personality. So he used a term called autotelic personality for those people who are more likely to experience a flow state compared to others because they have certain tendencies or characteristics within themselves that make them more likely to experience flow than other people.

So there can be individual differences; not everybody will experience the flow state in equal amounts. So he suggested that an autotelic personality is exhibited by a person who enjoys life and generally does things for their own sake rather than in order to achieve some later external reward. So autotelic people are more likely to do things they enjoy rather than just doing things for external pressures and rewards. So that is one thing that makes them more likely to experience a flow state.

Autotelic individuals also have characteristics, internal characteristics of personality. intrinsically motivated in high-challenge, high-skill situations. Now, some people, especially these autotelic individuals, feel very excited when there is a challenge. and high-skill situation. So they are more drawn to tasks that involve a challenge and a high skill requirement. Because of their personal characteristics, they are more likely to be drawn to those situations, and because of that, they are more likely to experience a flow state.

So they are least happy and motivated in apathetic situations. They avoid situations that are low in challenge and require low skills. Non-autotelics, people who are not in that category, those least motivated in high-challenge, high-tense situations, on the other hand, did not find the apathy condition aversive. People who are not autotelics, and who are less likely to experience flow, generally may not be so excited in high-challenge, high-skill situations. They may avoid such situations. So, they are less likely to experience them.

So, because of their internal characteristics of being drawn to high-challenge, high-skill situations, these people are more likely to experience a flow state. Rathunde also

demonstrated that autotelic personality is fostered in what is called a complex family environment, one that simultaneously provides support and challenge. So this kind of personality is developed because the conditions one receives from the family and so on also contribute; if you have a more complex environment where you face challenges and also receive support from people, then you are more likely to become autotelic individuals and so on. So, for promoting flow, we'll be talking about the promotion of flow in more detail in the next lecture, but the typical understanding from what we have discussed is that one important thing for promoting flow is to identify activities that lead you to experience flow.

So one can identify which activities give you more flow state. So everybody has different experiences and different activities that can give them a flow state. And so identifying them is very important, and we should try to do so. In order to find flow in your existing activities, whatever activities you are doing, make them more challenging if they are easy and enhance your skills if they are too difficult. So that is also another thing that one can do to experience a greater flow state. For whatever you are doing in one's daily life experiences, if possible, one can make them more challenging if the tasks are very easy or enhance your skills if the tasks are too difficult.

So in both cases, there will be some kind of matching between the task and skill, which may lead to more flow states in one's life. At the end, we will be discussing what the possible dangers of flow are. Now that we have discussed all the positive things about flow state and so on. Can there be dangers to flow or some negative aspects to flow as well? Research shows that flow experience can happen for both morally good and bad activities.

It can happen to activities such as gambling or games like bridge and poker, and so on. Now for any kind of activities flow can happen. It is not necessary that only good activities will get one into the flow state. Negative activities such as gambling and other things can also lead people to get highly into the flow state. So that is why activities that are not morally good can also lead to a flow state.

So, that is one of the dangers of flow. So some flow activities can become addictive, such as mountain climbing. Addiction to flow can lead to losing a larger perspective on life. So some people can get addicted to certain activities because they experience flow too frequently in those activities. For example, some people become addicted to mountain climbing and so on. Which is okay, but the problem is that when people get addicted to such activities, they lose the larger perspective of life.

They become too one-dimensional, and then they don't focus on other aspects of life. So that is also another problem that can happen because of the flow state. So in that context, Csikszentmihalyi very clearly said that enjoyable activities that produce flow can have a potentially negative effect. While they are capable of improving the quality of existence by creating order in the mind, they can become addictive, at which point the self becomes captive to a certain kind of order, which is then unwilling to cope with ambiguous life situations. So that is the possible danger of flow.

Therefore, it is important to remember that the issue regarding flow is not only how we can make it happen but also how we can manage it. That is very important. Using it to enhance life while being able to let go when necessary. So the management of flow state is also very important, and one has to understand and manage what kind of activities lead to flow when it is not good for one's life and so on. So according to Csikszentmihalyi, flow is a source of mental energy that focuses attention and motivates action, and like other forms of energy, it can be used for constructive or destructive purposes.

So, flow is an energy state. You are in a highly energetic and focused state. It can be both destructive and constructive. Therefore, one has to choose what one is doing. Therefore, he suggested that it is not enough to strive for enjoyable goals alone. One must also choose goals that will reduce the total sum of entropy in the world. So choosing goals and activities is very important. Because flow can happen to negative activities as well.

So it is important that to enhance the quality of life, one has to choose the actions and activities properly because otherwise it can undermine all the positive impact of flow. So, these are some of the things about flow. In the next lecture, we'll be talking about how flow and mindfulness are connected, which is the focus of this module. And we'll be talking more about interventions in flow in terms of practically applying them a little bit more in the next lecture. And then we'll talk about mindfulness and so on. So, with this, I stop here. Thank you.