

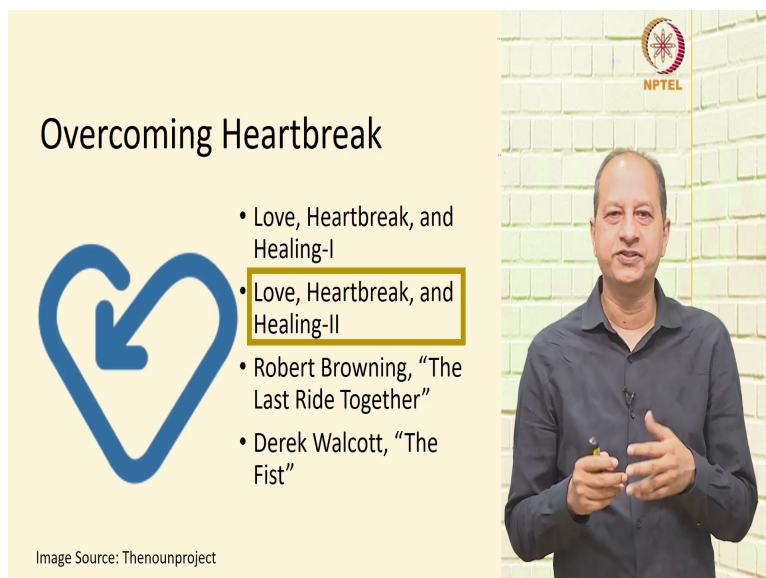
Literature and Coping Skills
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Lecture 30
Love, Heartbreak, and Healing-II

Hello, everybody. I am Ajit K. Mishra, your course instructor for Literature and Coping Skills. As I told you in my last lecture that I will be back with yet another lecture on Love, Heartbreak and Healing. This time, I am going to walk you through the other ideas, other significant ideas associated with heartbreak.

If you remember in my last lecture, I talked about heartbreak, and the various factors associated with it. And while talking about heartbreak, I also told you that it is very important for each one of us to know why heartbreak is such an unavoidable phenomenon, unavoidable experience, it is simply because of love, or the need for love need.

We all need love, because we would like to belong to someplace or somebody. And that is one big reason why this particular love drive or love instinct finally results in heartbreak because we develop a system of attachment for that person, or that thing. So, in this lecture, I am going to walk you through the other aspects of heartbreak. So let us start.

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The slide features a yellow background. On the left, there is a blue heart icon with a white arrow pointing clockwise. To the right of the icon is a bulleted list. The second bullet point is highlighted with a yellow box. In the top right corner, there is a small circular logo with the text 'NPTEL' below it. On the right side of the slide, there is a photograph of Professor Ajit K. Mishra, a man with short hair wearing a dark blue shirt, standing in front of a wall of yellow sticky notes. At the bottom left of the slide, there is a small text credit: 'Image Source: Thenounproject'.

Overcoming Heartbreak

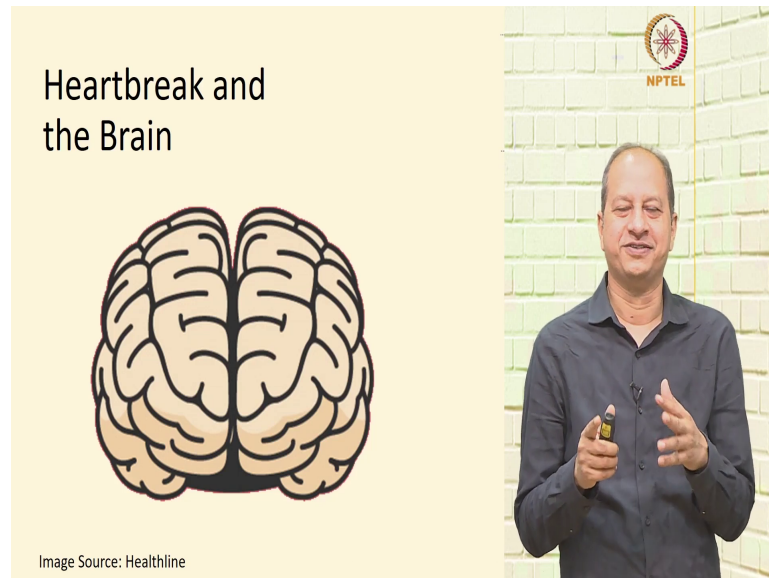
- Love, Heartbreak, and Healing-I
- Love, Heartbreak, and Healing-II
- Robert Browning, "The Last Ride Together"
- Derek Walcott, "The Fist"

Image Source: Thenounproject

As I told you, I am going to focus on love, heartbreak and healing from a different perspective, especially from the perspective of neuroscience to help you understand this

phenomenon better, so that we can be prepared, we can be ready for the onslaught of heartbreak. And we can develop better coping skills to take care of this particular problem or mental challenge.

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So, heartbreak, as you know, by now causes dramatic emotional pain. We feel it viscerally, in our chest, our throat, even in our gut. Our heart can literally feel as though it pains. And it does so. And that is the reason why it is not always metaphorical. And this is why we refer to the experience as having a broken heart, as if this heart is broken, and it is now experiencing tremendous physiological pain.


But while the visceral sensations of heartbreak lead us to focus on the physical neighbourhood, the organ we should be worried about, is, in fact, the brain. And interestingly enough, most people tend to ignore this particular organ, because it is more about how the brain responds to such experiences than just the heart. So, when a heart gets broken, our brain responds dramatically.

And it is these reactions that are responsible for all the terrible symptoms we associate with heartbreak. So, understanding why we feel, think and behave as we do when we are heartbroken, is vital if we hope to manage our responses and recover, and that through certain better coping skills and strategies. Is it very, very important that we all understand where these symptoms come from? What actually causes these symptoms? And how do these

symptoms lead to various associated problems? So, let us take a look at these interesting things.


So, the brain and heartbreak are very, very closely associated ideas. And that is why it is very important for us to understand the neuroscience of heartbreak, the everyday neuroscience of heartbreak so that we can understand the phenomenon better. And then we can adopt a better or an informed approach towards this mental problem.

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Heartbreak and the Brain

- A study conducted by psychologist Arthur Aron, neurologist Lucy Brown, and anthropologist Helen Fisher showed that romantic love activates in the caudate nucleus, via a flood of dopamine
- The caudate nucleus is associated with what psychologists call “motivation and goal-oriented behavior,” or “the rewards system.”
- Romantic love is the motivation to obtain and retain the object of your affections



So, a study that was conducted by psychologist Arthur Aron, neurologist Lucy Brown, and biological anthropologist Helen Fisher shows that romantic love activates in the caudate nucleus of the brain via a flood of a pleasure hormone that is dopamine. So, every time somebody is in romantic love, that particular experience activates the caudate region nucleus of the brain via a flood of dopamine that means dopamine will get secreted, and that particular brain region gets activated the caudate region or the caudate nucleus.

Now what exactly is the caudate nucleus? And why does it get activated via a flood of dopamine? Because dopamine is secreted in such an amount that it in fact activates the caudate nucleus greatly. Dopamine, I must tell you all that it is a pleasure hormone like oxytocin, which is the love hormone, and serotonin, the happiness hormone.

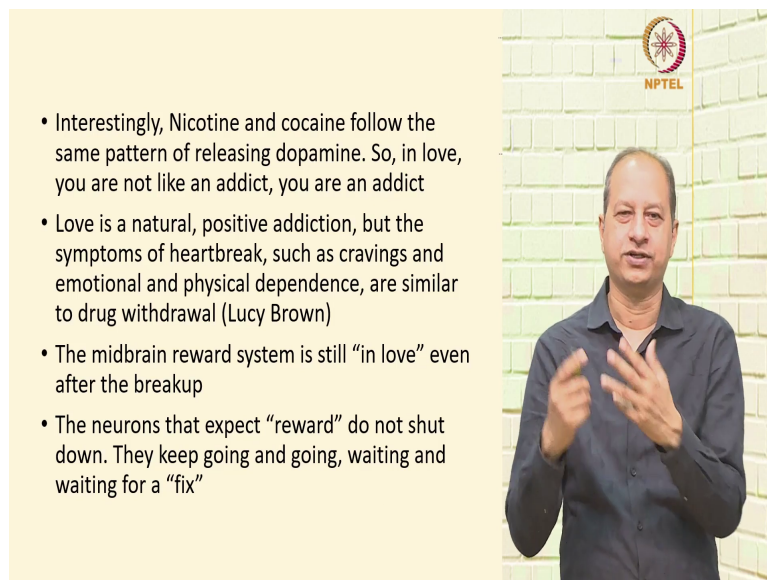
So, dopamine plays a very, very important role in our motivation, in our pleasure-seeking behaviour and a few other things as well. So, the caudate nucleus is associated with what we know as a motivational and goal-oriented behaviour or this is very popularly called the

rewards system of the brain. That means, the caudate nucleus is deeply associated with reward and all kinds of behaviour associated with reward.

So, any of our behaviours, which results to or or moves towards rewards is in fact located here or the cause of that particular behaviour can be located to this particular brain region, the caudate nucleus. So romantic love is in fact, the motivation to obtain and retain the object of your affection. So that way, we come to the gate of a controversy, that tells us that love is an emotion or love is a motivation.

It is a goal-oriented or reward-oriented behaviour. It is not an emotion, it is a reward-oriented behaviour, because it is directed towards a certain reward, and it is motivated towards that particular reward, which is the object of your affection, it can be a person, can be a thing. So, romantic love is in fact that particular motivation.

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- Interestingly, Nicotine and cocaine follow the same pattern of releasing dopamine. So, in love, you are not like an addict, you are an addict
- Love is a natural, positive addiction, but the symptoms of heartbreak, such as cravings and emotional and physical dependence, are similar to drug withdrawal (Lucy Brown)
- The midbrain reward system is still “in love” even after the breakup
- The neurons that expect “reward” do not shut down. They keep going and going, waiting and waiting for a “fix”

So, interestingly, nicotine and cocaine are two substances, they also follow the same pattern of releasing dopamine. So, when dopamine is released in somebody, it is highly motivated and somebody becomes goal-oriented, somebody is in fact, seeking some kind of pleasure or some kind of pleasure is being derived from that particular behaviour or action.

So, nicotine and cocaine have been shown to produce the same kind of effect on the brain as well. So, they also lead to the release of dopamine. So, in love, you are not like an addict, you are an addict, because there is a huge similarity between the release of dopamine when somebody is in love, and the same when somebody consumes nicotine or even cocaine- so

that means, love also acts as an addiction; so that is the reason why most people refer to the love experience as an experience of addiction. So as if they are addicted to love. So, somebody is not like an addict, somebody is in fact an addict because of this particular pattern.

But love is a natural positive addiction. The symptoms of heartbreak, such as cravings, and emotional and physical dependence are similar to drug withdrawal. And that is very, very interesting because love is, of course, a positive and natural addiction, natural because it is a need, I is an urge, it is a desire which comes to us naturally, because of that instinct, life instinct and love when it leads to heartbreak, when it is not requited, when it is not returned, when it is not preserved, can lead to heartbreak.

And when it leads to heartbreak, or when heartbreak happens, people who experience a heartbreak also experience certain cravings. And they also experience certain emotional and physical dependence, dependence on somebody as if that particular object of their love will continue to sustain them. And in the absence of that particular object of their affection and love, they will fall apart.

So, the dependence, the psychological and the physical dependence, touch cravings or touch starvation, the skin hunger, which was otherwise met with when this person was in love with the partner. Now that the partner is gone, and it has led to a heartbreak, the partner's disappearance or absence will in fact create a great amount of craving in this person who is experiencing heartbreak.


So, the emotional and physical dependence, and the cravings all together will result in a certain type of behaviour, which is very, very similar to that to a person or of a person, who is, in fact withdrawing from drug use, so that is the reason why we are addicts, when we are in love, especially romantic love. So, it is so similar to drug withdrawal. Therefore, it is not an easy process, it will cause a lot of problems to the sufferer, to the person who is experiencing the heartbreak.

So, there is something even more interesting. And that is the midbrain reward system. That is the caudate nucleus is still in love, poor thing, because it does not even realise that heartbreak has taken place. And a separation has taken place. And there is no hope for any further reward. But this particular region does not even know that, it is still in love. And therefore,


even after the breakup, it continues to feel as if the reward will continue to come. And it waits for that reward.

So, the wait turns out to be a long and never-ending wait in the case of a heartbreak. So, the neurons that expect a reward, they do not generally shut down. They keep going and going or waiting and waiting for a fix. And what is that fix? It is the reward. And until and unless that reward comes, the neurons will be activated, they will remain activated. And that particular caudate nucleus will still be in love. So that is, a very, very big concern.

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- There is a neural overlap between physical pain and social rejection in which both the dACC and AI respond broadly to stimuli that elicit negative affect
- Emotional pain feels like physical pain showing withdrawal symptoms, Intrusive thoughts that keep us stuck, and cause emotion dysregulation
- All these point towards the Broken Heart Syndrome (stress cardiomyopathy or Takotsubo cardiomyopathy) due to the emotional stress caused by a traumatic breakup or the death of a loved one



And we also know that there is a neural overlap between physical pain and social rejection. I talked about this overlap in my last lecture. And in such overlaps, there are certain brain regions like the dorsal anterior cingulate cortex and the anterior insula, they respond broadly to stimuli that elicit negative affect.

For example, if a person touches something that is extremely hot, the person is bound to be burnt. And the person is bound to experience severe physical pain or physiological pain. And that, that experience of physical pain is in fact located in these brain regions. Similarly, when a person comes across a photograph of his or her love interest, or lost love interest, the person begins to experience certain mental or negative feelings or emotions, certain mentally challenging, disturbing emotions.

And while this person is experiencing these emotions, the experiences can again be located in the same brain regions, like the dorsal anterior cingulate cortex, and anterior insula, the same brain regions, so that establishes the fact that physical pain and emotional pain are very, very alike in multiple ways; so that is a very interesting proposition, in fact.

So, this emotional pain which feels like physical pain, showing withdrawal symptoms, intrusive thoughts, actually keeps us stuck and thereby causing a great amount of emotional dysregulation in us. So, these are some of the things that happen to us. When we experience emotional pain that feels like physical pain, therefore, we call it heartbreak.

So, the first is withdrawal symptoms, because coming out of heartbreak is almost like coming out of drugs. So, the sufferers behave in similar ways. And there will be intrusive thoughts, the thoughts of the love or the love interest, either lost or gone forever separation, trauma, pain, all these intrusive thoughts in the form of flashbacks, memories will continue to return and to haunt the sufferer.

And these experiences will in fact, keep a person stuck, fixed at one point and it will be very difficult for the person to move on in life. So, movement will be severely restricted. And this will also result in severe emotional dysregulation including paradoxical emotional behaviour, now angry, now very sad, now low, now high. So, people begin to show different kinds of emotions and they do not know how to regulate those emotions, because those emotions will continue to challenge them so severely that they will experience emotional dysregulation.

And all these in fact, point towards something that we call the broken heart syndrome. Broken heart syndrome is also called stress cardiomyopathy, that is a medical name for the broken heart syndrome, stress cardiomyopathy, or Takotsubo cardiomyopathy. Stress cardiomyopathy is very, very easy to follow, understand, because it is induced by severe Stress cardiomyopathy. And then Takotsubo myopathy.

Now Takotsubo cardiomyopathy derives its name, especially the first part of this phrase Takotsubo derives its name from the Japanese octopus trap. So, the Japanese octopus trap has a certain shape in which the bottom of the trap is a little broad. And then the neck of the trap is very narrow, with the help of that octopus trap. The Japanese in fact, trap octopuses.

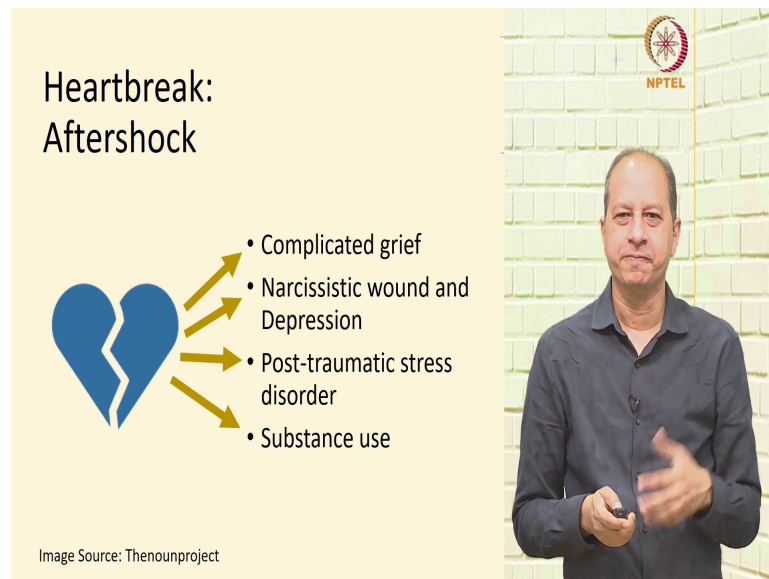
Now, why Takotsubo? Because when somebody is experiencing heartbreak, and then stress and anxiety related to that heartbreak, the left ventricle of the heart acquires a shape, which is very, very similar to that of the Takotsubo octopus trap. So, it gives us a feeling as if that particular part of the region of the heart has become stressed. Therefore, it has derived that particular shape.

So, due to the emotional stress caused by the traumatic breakup, or the death of a loved one, if somebody experiences heartbreak, the heart, the stressed-out heart, especially the left ventricle of the heart acquires that particular shape. Therefore, it is called Takotsubo cardiomyopathy. So, the broken heart syndrome is in fact very, very similar to any any

cardiovascular issues, but then it does not in fact, cause a cardiovascular arrest just because of this heartbreak experience.

So, there is a difference between, but there are instances where people have succumbed to the stress or the pressure, that was a result of heartbreak. So, broken heart syndrome can lead to some deaths as well. But the rate is very, very low.

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So, heartbreak actually leads to a variety of aftershocks. So, it is very, very important that we know these aftershocks well, so that we begin to think about those things in an informed manner. So, the first can be complicated grief, the grief that results from heartbreak, if it is not resolved, it will promptly become unresolved grief or complicated grief. It will not remain as any normal everyday grief, it will become complicated, if it is unresolved. And once it is complicated, it will lead to several other mental disorders.

Then, narcissism wounds heartbreak. If you remember, I also talked about social rejection and social pain. So social rejection causes a tremendous amount of social pain. That means when we fail in interpersonal relationships, including romantic ones, we are bound to experience a social rejection and social pain that can lead to narcissistic wounds.

These narcissistic wounds mean that a person who has experienced some kind of humiliating rejection once will not be able to be comfortable in a company of people ever again, until and unless the same person receives a lot of appreciation from outside externally. That will make

this person comfortable, that will help this person overcome the narcissistic wound and the person can return to normal life again.

So, if the narcissistic wound persists, it can promptly result in depression, and various depressive disorders including MDT and then PTSD and a variety of other reasons, attachment disorders as well. And then we come to PTSD as you all know; it can promptly lead to PTSD if it is not taken care of. If the sufferer does not know how to take care of a heartbreak, if people around the person or the sufferer do not know how to help the sufferer with certain things to enable the sufferer to overcome the heartbreak, it will promptly lead to post-traumatic stress disorder.

It can or it does in fact lead to substance use, misuse, and finally abuse. Because most people derive immediate relief from substance use. In heartbreak cases, it is the substance that gives instant and immediate relief to a person, because you are completely out of your senses, your brain will not respond in any manner to the experience of heartbreak.

Therefore, you will not experience any pain at all if you allow yourself to be under the spell of substances. But that is not a permanent answer. That is not a permanent recovery option. Because substances will keep you in an inebriated state, but they will not help you release yourself from the trap of the heartbreak or release your heart from this Takotsubo syndrome or Takotsubo cardiomyopathy. So therefore, substance use is no answer to the aftershock of heartbreak.

Moreover, all of the love flown report, signs of lack of emotion control on a regular basis since the initial breakup occurring regularly for weeks or months, that also includes in appropriate phoning or calling, writing emails, sending messages, pleading for reconciliation, sobbing for hours in loneliness in privacy, and then drinking too much or making dramatic entrances and exits into the rejecters home, place of work or social space to express anger, despair, and passionate love.

So, if I can quote Lucy Brown, who suggests that novelty activates the dopamine system. I mean this dopamine system is extremely beneficial for energy and optimism. Because it creates a substitute reward. So therefore, we need to improve our coping skills or develop our coping skills through a set of strategies or mechanisms. And then we can overcome the

onslaught, the pangs of heartbreak. So, this is a major problem that is associated with heartbreak.

Most people are not able to overcome, accept the heartbreak. The reality is associated with heartbreak, and that is the reason why they engage in various emotional dysregulation activities like calling the rejecter, messaging, then dramatically entering into the rejecter's private space and doing a variety of things.

So, all these things, but these things are not going to help, they generally give these people temporary relief. So, it is very important that we understand how coping skills in fact can help us overcome these problems. So, let us take a look at these coping skills that can help us overcome the pangs of heartbreak.

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The slide is titled "Coping with Heartbreak" and features a blue stick figure on the left. To the right of the figure is a list of three coping skills. The slide also includes an NPTEL logo in the top right corner and a photograph of a man speaking in the bottom right corner. The background of the slide is a light yellow color with a grid pattern.

Coping with Heartbreak

- **Negative Reappraisal:** Recalling the annoying qualities of the ex-partner
- **Reframe:** Treating love feelings as less problematic
- **Distraction:** Focussing on things that take us away from the thought of love and the breakup

Image Source: Visualpharm

So, the first of these coping skills, which many therapist's advice is called negative reappraisal. This is a coping skill that is directed towards obstructing intrusive thoughts in the form of flashbacks, negative memories, even nightmares, negative thoughts. So, this particular approach can obstruct those feelings from coming to you. Because every time these feelings come back to you, they will haunt you again, because you will be promptly transported to that particular condition when the heartbreak actually happened, and you will get trapped in that condition again.

So, if you begin to recall the annoying qualities of the ex-partner, that will give you some kind of ratiocination to think that, yes, the ex-partner was not a perfect one. Therefore, what

if I have lost her or him, I can still get somebody who is far more perfect than my ex-partner or ex-lover. So, such negative reappraisals can actually lead to positive results. That is exactly what most therapists suggest or propose.

And then there is something called reframing, because the initial response has to be a one of negative reappraisal in which a person in order to block intrusive thoughts from coming continuously can engage in negative reappraisal. And in this stage, you prepare a list of the things that you do not find or do not like in your ex-partner. So instead of preparing or focusing on the things that you actually liked about your ex-partner, which will keep you trapped, you in fact, prepare a list of the things that you did not like about your ex-partner.

And that particular list will give you strength to think that you have not lost much, you still have a life that you can live, you still have possibilities of finding your true love and true partner. So once that happens, you can enter the next stage, which is a reframing stage, where you reframe because that old frame is gone, it is lost, it is broken now, you need to reframe everything.

And how do you do that? And this is exactly where you adopt a better approach towards your ex-partner. That means, okay, fine the ex-partner was not a perfect one. But it was not a bad experience at all to love or to fall in love with my ex-partner, it was worth loving her or him. So, this is exactly when you treat love feelings as less problematic.

Because whenever heartbreak happens, most people begin to play the blame game. They blame their partner's, ex-partners, they blame themselves, they finally blame the very idea of love. And that is exactly what happens to most sufferers of heartbreak. So, they blame the very idea of love. Why is it here? What is it doing here?

It is such an evil thing, or some of these responses that we generally get from the sufferers of heartbreak, when they begin to blame the idea of love itself. They say that I am never ever going to fall in love again, I hate love, or I hate to be loved. So, this blaming of love will in fact render you incapable of resuming your life or incapable of finding any love interest in your life.

So that will gradually push you towards the darker realm. Therefore, reframing helps us create another frame for that particular thing. So, what if one frame has broken, we can create

another frame, a better one for that particular thing. So, in this stage, we treat love feelings as less problematic.

And then we finally come to the distraction stage. When we try to distract ourselves from the very thoughts of our ex-partner, or our love experience, the past love experiences. So, we begin to focus on things that take us away from the thought of love and the breakup, so that helps us. It can be anything, somebody can focus on one's badminton skills, one's cricketing skills or music skills.

So, you are actually distracting, you can focus on your friends. Imagine, as long as you have been in love or you have been in love, you did not have enough time to go out with your friends, interact regularly with them. Now you can think of distracting your attention from one particular thing that is gone, lost to the other things, other positive things in life- so that will help.

Apart from these coping strategies there are various other coping strategies. I am reminded of a very famous set of coping strategies proposed by Guy Winch psychologist. And if you can find some time for yourself, you can watch a Guy Winch video, and then you can focus on the other types of coping strategies that Guy Winch is also talking about.

So, when I take you to the other segments of this module, I will be focusing on some other coping strategies as well, which I will locate in relation to the poetic compositions that I have selected for discussion, so that way, we come to the end of this lecture. I hope it helps.

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References

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Because it is very, very important that we understand what heartbreak is all about? How is it caused? What are the consequences of heartbreak? What are the neurobiological aftermaths of heartbreak? And then finally, how can we in fact cope with heartbreak? so that we learn that we can overcome the heartbreak of this concerted approach. So, with that, now I end this lecture. Thank you very much for joining me.