**Lecture 10: Research implications**

This lecture is on research implications of the memory reconsolidation model. The whole purpose of the course is to put psychodynamic psychotherapy and psychoanalysis on a stronger empirical footing. A lot of what I'm going to talk about is guided by the three-step change process based on memory reconsolidation that at this point you're all too familiar with. We will be addressing questions like establishing memory reconsolidation has occurred in psychotherapy, the challenge of measuring recurrent maladaptive patterns, measuring corrective emotional experiences, and documenting steps in the change process. Some additional issues I'll bring up that involve aiming to optimize treatment outcomes based on memory reconsolidation. The purpose of the course is to put these modalities on a stronger empirical footing. This is needed because psychoanalysis rejected empirical research for many years. Insurance companies and consumers now demand evidence that it works, and we know that Cbt is now dominant, and psychoanalysis is in decline certainly in the United States. It can really benefit from this effort that we're undertaking. As I think about classic psychoanalytic claims, they're extremely intriguing, but very difficult to test or falsify. An example would be Freud's paper on mourning and melancholia. He addressed the question of why is it that some people get clinically depressed after a loved one has died. He hypothesized that there was unconscious aggression for the deceased person that the person wasn't consciously aware of. They had unconscious guilt and were critical of themselves, which led them to become depressed. A lot of this was going on unconsciously. If you wanted to test something like that, we certainly see evidence for this clinically. But how do you test it and prove it. You might look for signs that the person has aggressive feelings toward the deceased person. If you were to find that, that would be potentially supportive, because if they hadn't been aware of it before, and by virtue of the therapy they became aware of it. What if they continue to deny having it? You might say, they're just really repressing, so we need to keep working on it. The point is that you can't falsify this claim one way or the other if opposite results can be viewed as supportive of the claim you're making. I think that's a challenge. That's one of the reasons why there's a need for this kind of repositioning. It’s part of the claim that psychoanalysis is not adequately empirically based. There's been a lot of research done to demonstrate that psychodynamic psychotherapy is effective. What is the evidence regarding psychoanalysis? Is there good evidence that psychoanalysis is effective as well? Psychodynamic psychotherapy is not on the standard with other modalities, and we can understand the complexities of that. Regarding psychodynamic psychotherapy, there's really strong evidence that it really does work with very strong effect sizes like 1.0 which is at least as strong or stronger than antidepressant medication. Some people aren't totally satisfied with that because they also wonder if the mechanism of change can also be demonstrated. Essentially, it's an important question, because you don’t know if it is specifically working through the modality that you're claiming it's working through if you can't identify the mechanism. For example, if the mechanism of change is resolution of unconscious conflict, can you really demonstrate that kind of resolution? That's difficult to do. I think that the mechanism of change that we're talking about is more empirically tractable. As we'll talk about in the last session in two weeks. It's not completely incompatible with a conflict model.

To start with some basic issues: We need to have a common definition of enduring change that would apply to all modalities because that's what we're really interested in about memory reconsolidation. In most psychotherapy studies there's typically a 3 to 6 months follow up and occasionally a 2 year follow up (but that is unusual). Grants for psychotherapy are typically in the 3 to 5year range. Funding terms don't allow long-term follow up. We really do need a consensus panel to create a definition of enduring change. We propose this in our book in 2020. It hasn't happened yet and it's not a simple matter, because when it comes to specific conditions like depression or panic disorder, we can look for change in symptoms, but we're also interested in how the person is functioning more generally in their personal relationships and in their capacity to be successful in work context, and the capacity for self-regulation. Really what we'd like to have been a follow up for 5 or 10 years. I'm thinking, maybe we can get a grant specifically for this purpose. We need participants from established psychotherapy studies that have agreed to be contacted for long term follow up to see who has enduring change, who doesn't relapse, and what are the predictors of that? I have considered our work becoming reacquainted with Bruce Ecker's work. I think his method may lend itself to testing some of these ideas. There are four steps. You must have to reactivate the memory, and you must have a manipulation that updates the memory. There is time dependency because the reconsolidation window after reactivation is open. It's only open for 4 to 6 hours. You must demonstrate memory specificity so that your updating applies to one memory and not another. That is difficult in a traditional psychodynamic psychotherapy where you follow up what the patient is bringing up. Then there is this association of immediate and delayed effects where you know sleep is necessary for reconsolidation. You would want to demonstrate that the memory isn't immediately altered, but it is the next day and long term follow up. We talked about Bruce Ecker's approach where he reactivates problematic target learning. Then there's the destabilization of the target learning with activation of contrary knowledge. It's a mismatch on the target schema. There is this nullification of target learning where you have repetitions of the mismatch for counter learning during the remainder of sessions. The fact is that this is a targeted strategic approach, and the number of sessions is not that enormous right. These criteria have not been met by any psychotherapy study, but I think Ecker's method may lend itself to it. I'm not familiar with the extent to which Ecker's method has been independently validated by others. It's certainly been replicated numerous times by Ecker and various publications. I think independent replication is important.

What does this involve? You remember the example I gave of the man who came for psychotherapy because he was unsatisfied with his occupational status in life. He was in his early fifties, and he'd always changed from one job to another after a few years. He didn't understand why. Working with Bruce Ecker, they're able to realize that there was this implicit learning that had happened when he was younger, where his father was miserable, and said, never stay in a job for too long. He reactivated that memory, and then countered it with specific knowledge that the patient had about people who had been a long-term job and had been very happy. The target learning of the father being miserable is the reactivation. You have the manipulation of the contrary knowledge of the teachers being happy. He has this preparatory phase where he's getting the information together. You could do a study with someone who is agreeable. You could reactivate without the manipulation, you can manipulate without the reactivation, you could have a separate memory that you juxtapose with the contrary knowledge. You could do all these different manipulations and you could do the reactivation within 6 hours of the manipulation, or you could do within 12 hours, and test it the next day and see if it's changed or not. I think it lends itself to this. I'll have to talk to him about his interest in doing this and finding the right kind of patient to do it. I think it's getting at the kinds of criteria that is useful to really show that it works this way.

Measurement of recurrent maladaptive patterns is cornerstone of the whole undertaking. This is what we're trying to change. We must be able to measure it. To my knowledge, the best validated method of assessing recurrent maladaptive patterns is the core conflictual relationship theme developed by Luborsky and Crits Christoph. It's one thing to be able to measure it reliably, but then, what about changes in the recurrent pattern? Can that be measured reliably because that's a different question. That's much more subtle. I think that that would be important to do The CCRT involves identifying the clients wishes on the one hand, expected or actual responses of others in relation to those wishes, and then the response of the self to the self to what they expect to happen. This is closely related to Hannah Levenson’s CMP where she differentiates in 4 steps expected responses. They developed this method led by Chris Christoph of using something called the relationship anecdotes paradigm (the RAP method), where outside of therapy you can ask people just to describe 10 different interpersonal situations. From that they can derive these basic parameters and reliably measure the CCRT. It can also be done in the context of psychotherapy sessions. To the extent that we can measure are recurrent maladaptive pattern in this way, we can address the question of whether CCRT is always associated with intolerable distress that is avoided. Can adaptive changes in the CCRT be reliably detect and rated? What processes enable improvement in the CCRT? Is it conflict resolution? Is it transforming intolerable emotion? Is it both? I noticed that the name, Core conflictual relationship theme is operationalizing core psychiatric concepts about conflict. We're trying to move away from that. It'd be interesting to find a way to find recurrent maladaptive patterns, not in terms of conflict, but maybe in terms of intolerable distress.

Comparison of 2 types of corrective experience: Mismatch versus Arousal. This is an idea that a graduate student has put forward for a possible PhD. It was noticed, having read our book, that Bruce Ecker, really focuses on the mismatch aspect of the corrective experience. Whereas we in our 2015 paper, really emphasized corrective emotional experience. Can we test this out? Ecker highlights the importance of information mismatch to destabilize and update the target memory creating a corrective experience. In this proposal he was proposing to look at arousal level as a way of measuring the correct of emotional experience. I bring this up not so much to be critical as to illustrate the complexities of this. Measuring arousal may not discriminate between the two different methods and may miss the specificity needed for corrective experience. Bruce Ecker really highlights the information mismatch. It's true that information can elicit an emotional response within seconds or milliseconds. In terms of measurement arousal is not necessarily going to differentiate right between mismatch based on information versus corrective, emotional experience. What is a corrective emotional experience exactly? I think it's very helpful to think about that. I gave it thought in preparation for this lecture, and I came up with the idea that corrective experiences are an emotional experience that meets an important unmet need. For example, with Becky, she felt like she was unlovable, and wanted to feel like someone does love her. That is corrective. There was an unmet need there. Simply saying we're going to measure corrective experience by looking at arousal is much too crude. Yet it's very difficult to hone in on this nuance, but it may be essential. This is challenging and unresolved at this point. I think it's important to think it through, as we tackle the empirical challenges.

How do corrective experiences come about? Are they planned, or are they spontaneous? Franz Alexander was criticized for creating artificial experiences. In the psychoanalysts that I've spoken to in my recent travels, they seem to be more accepting of the concept if the corrective experience happens spontaneously. I say simply being a therapist with genuine curiosity, respect and empathy can create corrective experiences. I had the experience myself of doing psychotherapy with someone a few years back. I was genuinely interested, concerned and caring about them. This is someone who had an alcoholic father, who was physically abusive, and one day he lined up the family, brought out a shotgun and was about to shoot them. They managed to escape. The patient says to me, you don't want to kill me. That was a corrective experience that came out of the fact that I was being a therapist and being a decent therapist, nothing special. I hadn't planned anything, but it happened. I think that kind of thing happens a lot because so many people are in therapy, and they haven't had people really pay attention to them and empathize with them the way that the psychotherapist can. Can a corrective experience be planned? Certainly. But can it be executed as planned? I think that's much more difficult. Okay, because things happen. We saw Hannah's experience with Becky. She was kind enough to tell us that when she had Becky repeat, I'm a valuable person, she thought that Becky would be able to say, you know I feel valuable. But she couldn't. That turned out to be step one rather than step two. The prepared mind recognizes when an opportunity arises in the moment. I think you could see how that that happened in that therapy. Here's the research question: does the therapist anticipating what the client needs from a corrective experience, lead to corrective experiences occurring more commonly and leading to better treatment outcomes? In other words, thinking about corrective experience and what is needed, you're prepared more likely to be able to deliver. This is a question that I have pondered for some time, and I don't know the answer. I also have spoken to some neuroscientists about this. They don't know the answer either. I think it's an interesting question. The extent of emotion activation needed to update an emotion laden memory. In classic memory reconsolidation research only, a reminder is needed to reactivate their memory and make it labile or updateable. What we call it is not necessary. Remember when we talked about that study of learning a list of words right on day one, and then you come back on day two, and you have the same experiment in the same room, and they ask a question about the testing. That's enough to make that memory labile. A key question is whether more than a reminder is needed to update the emotional component of a memory. This is especially relevant when considering memories associated with intolerable emotion. We might ask, to what extent does the painful emotion need to be fully experienced to be transformed and based on my exposure to emotion focused psychotherapy and hearing the way Less Greenberg. and others talk about it, they really want people to experience the painful emotion as fully as possible. It could be the case that to update the emotion adequately, you need to fully activate it. Maybe with the support of the therapist, those painful emotions can be experienced, whereas they couldn't before. On the other hand, this gets into what a corrective experience is. Perhaps it isn't necessary to fully activate the distressing emotion so much as countering the cause of the intolerable distress. In other words, the expectation that another man is going to kill you, and you can tell from the demeanor that I'm not going to be killed. Well, that's getting at the cause of the intolerable distress. This is relevant to this whole question about whether a memory is updated or whether a new memory is created. Gershman and colleagues from Harvard said this is the key distinction in figuring out whether extinction is going to occur or memory reconsolidation. When you've carried the bell with the food, and then you ring the bell that context is so different that it forms a new memory. In psychotherapy and psychodynamic psychotherapy, the idea would be that you're really activating the old memory because the situation is so familiar by virtue of transference. What you're really doing is your having a different emotional experience that will update the emotional content of the problem. I'm of the opinion that it isn't necessary to fully activate the emotion all of it in its full painful distress. It does need to be strategic about the meaning of the corrected experience in relation to what's intolerable.

Social perceptions change immediately after a corrective experience because you've updated the schematic memory, and your schematic memory is the basis for predictions you make about the world. Your predictions and expectations change a little bit. It would be nice to demonstrate that empirically. Not easy to do. We must have a good measure of corrective emotional experience. A screenshot of a paper

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Going through this table: Client must have experienced the traumatic events which were not dealt with successfully in the past; client must be re-exposed to these emotional situations; the re-exposure must occur in favorable circumstances and the client must face the re-exposure. What does it mean that the client must faith we exposure you? To what extent do you need to experience the distress fully? That's a question. The exposure does not need to occur with the therapist. The therapist, or another significant person expresses an attitude different from that displayed by the person in the original. This is a nice start, but I think it may not be specific enough to really get at the causal mechanisms. It would be nice to have a method to reliably identify a corrective experience by both the therapist and the client. We want to test: does the social perceptions change immediately? Can this hypothesis be falsified? I was thinking about, how would you test this? One thing you could do is do frequent interviews. You could have a corrective experience, and then you interview the person right after that or the next day. There would be a lot of such interviews and you're really starting to change the process by having those kinds of interviews so you could have the client keep a diary, right? Conceivably, if the person was keeping a detailed diary in a prospective manner throughout the whole treatment, you could assess the probability that a corrective experience is followed by perception change. It's possible. The second question, does it change the recurrent maladaptive pattern? That gets into, the measurement of the current pattern, and needing to make sure that the corrective experience is a small prediction error, not such a large one that a different memory is created. Alright! Here's a very, very important one, which is in the book chapter. How many repetitions are needed for each of the three steps to the change process? Here's a way of addressing it. I’ve discovered that there are established psychotherapy treatment data sets that are available with all the sessions recorded. There is outcome data so you could classify treatments as successful or unsuccessful (I'm sure there's some in between). How many repetitions of each are associated with the successful versus unsuccessful treatments? Step one: activate the memory and the painful emotion; 2: corrective experience 3: application to real world contexts. That gets a little dicier because that's not happening in the recorded sessions. You ask some interesting questions like is juxtaposition of one and two common in successful treatments and uncommon in unsuccessful treatments where you have activation of painful emotion without corrective experience at the same time or within the reconsolidation window. You could develop ways of recording the number of events where things that happen in therapy are applied outside but would require careful thought. What we know from memory research is that older, stronger, more differentiated memories are harder to change. If there was a way of differentiating between newer memories that are problematic and older ones, would more repetitions be needed? That is a reasonable ask and potentially measurable.

This is a question that Stephan posed: do memories change, or does the interpretation of the memory change? I believe memories are reconstructions that engage multiple systems that are known to be malleable. Memories are not fixed entities. I think the key question is, does the emotional content of the problematic memory change? I was thinking about research you could do in a prospective manner. One of the things that we're doing is in mood study comparing high and low frequency psychoanalysis. To get into the study, they must be chronically depressed, and they must have had early childhood diversity. We have them write about their early childhood diversity before the treatment starts. One year later, we have them write again about the same early childhood trauma. We can see if the memory reports are changing. You could also do it in other contexts because this is a general question. I had a conversation with someone about having given birth to few children, and how she remembers thinking that it was terrible at the time, but she can't really recall that now, because having a child was so wonderful. Similarly, you could take people who have been traumatized with rape, for example. More recently in a prospect manner. So how would you really get at whether it's changing or not? Well, you could do a laboratory study using evocative stimuli and recording emotional responses, including physiological response. That doesn't really differentiate between extinction, habituation, and reconsolidation. You would expect some physiological change. You would predict a transformation in the emotional content. For example, reporting both positive and negative emotions, not just attenuation of negative emotion. You would expect changes in prediction that are enduring. If only the interpretation changes, you'd expect variability and a return to baseline, you wouldn't expect any changes to be enduring. In other words, if the memory is fixed, and it's just your interpretation of the memory that's not changing the memory itself, the interpretation would influence how it's reported on. Ultimately you would return to the original level.

This is derived from a conversation I had yesterday. We're talking about somatic symptoms and the interpretation of somatic symptoms. If you have pain, and the doctors can't figure out what it's due to, and then you talk to a clinician, and you find out there's nothing seriously wrong, it's a functional change, it's real but it's not going to harm you, and we must get you functioning again. Then your whole attitude changes. Your symptom is less distressing, and the symptom has changed. It's kind of an interesting analogy to a memory. Is there something independent of the interpretation? Or does the interpretation intrinsically effect its nature? I think it's quite possible that it does change the nature of the memory. That's the hypothesis to test. But these are context where we could look at. Do corrective emotional relationships happen in other modalities? Simply being a therapist with genuine curiosity, respect, and empathy, may create corrective experiences. We know that as therapists gain more experience and merge techniques with their own personalities, recognizable elements of specific techniques decrease and similarities across treatments increase. There's an interesting distinction in the literature between trait therapeutic alliance which makes treatment possible and state therapeutic alliance, which is therapeutic experiences that bring about change. It's important to differentiate between those. There are lots of treatment studies with other modalities. We can interview clients post treatment have clients describe what mattered to them the most in the treatment. You could obtain objective ratings of these reports from trained raters. I think it's likely that corrective emotional relationships are playing an important role in other modalities not just psycho dynamic and psychoanalytic.

Moving on. Hannah Levenson and Lynn Angus, we're very innovative in applying the narrative emotion process coding system, and they very laboriously rated each minute of these 6 sessions, categorizing each minute into these 9 different categories. 3 broad categories, problem markers, transition markers and change markers. Hannah has talked about a certain isomorphism that exists between time limited psychodynamic psychotherapy and any PCS. What would be needed to demonstrate that any NECPS align with memory reconsolidation. The same old story really does correspond to the recurrent maladaptive pattern. We need to bring in the measure of recurrent maladaptive pattern like the CCRT. We need to bring in measures of corrective emotional experience, and we need to be able to measure change in the recurrent maladaptive pattern. We predict that corrective experience would be associated with transition and change markers. We can ask questions like what determines the relation between change markers, unexpected outcomes, and discovery stories and actual change in the schematic manner, has maybe captured by the CCRT. To what extent are those changes captured by NECPS. Do those lead to enduring change?

Is moderate arousal during psychotherapy optimal? Well, in emotion focused psychotherapy research that has been demonstrated. Does it apply to psychodynamic psychotherapy during mentalization?A diagram of a diagram

Description automatically generated This is the famous Yerkes-Dodson curve that applies to all complex cognitive functions. The peak performance is when your arousal levels are moderate, and if it's too low or too high, your performance drops off. The medial prefrontal cortex is sensitive to arousal and that's where mentalizing happens etc... It is important because we've talked about the importance of unformulated emotion and intolerable distress that isn't well mentalized. We want to facilitate the ability to mentalize, so would physiological monitoring during psychotherapy be helpful? You could measure heart rate variability, a measure of vagal tone. The lower HRV, the higher the arousal. You can get an updated measure every few seconds. You could look at this during the session to assist the therapist and judge the client’s readiness to mentalize. This could be used to assess whether mentalizing ability really is better during moderate arousal. You could do this in an observational manner, with continuous physiological monitoring and continuous recording of the session and independent readings of reflective capacity and mentalization. We've even talked about the possibility of adding brain imaging. There's this technique FNIRS (functional near infrared spectroscopy), that involves wearing a cap with basically multiple sensors. You can measure cerebral blood flow at the cortical level right around the brain. It is good enough to look at the medial prefrontal cortex. It is sufficiently unobtrusive that you could do this during psychotherapy. You are not lying in an MRI scanner in an isolated manner. You could evaluate the role of the medial prefrontal cortex and very importantly, ask questions like set point for the media prefrontal cortex going offline as a function of early adversity. You can individualize things to have a sense of where your patient is, and how to either activate them or soothe and down regulate them to get into the optimal zone.

Testing the effectiveness of enlivening methods to increase emotional experiencing and processing. We highlighted Hannah Levenson’s chapter, specifically, 15 or 20 ways to enhance emotion processing in psychodynamic psychotherapy. I think this is important. I think that it gets to the heart of the differences between the model that I'm proposing and Mark Solms model. In transference focused psychotherapy, psychotherapists were given special training and transference focused psychotherapy (100 hours or so). Their performance and success with patients (borderline personality disorder) were compared to patients treated by very skilled psychotherapists in the community who did not have this special training. This was treatment as usual. I suggested that it would be useful to have psychotherapists randomly assigned to getting training in emotion focused therapy methods. All the different ways that Hannah has specified to increase emotional experiencing and expression. We would then compare this to treatment as usual. I would predict faster improvement, fewer sessions, and more enduring change. This is at the heart of where me and Mark differ. Do all problematic procedures get updated, or will most new responses always be intentionally deployed? The answer is closely tied to the implementation and success of a more emotion-focused approach. Following corrective experiences in therapy, a more insight-oriented approach versus corrective emotional experience. Do more adaptive responses to problematic situations happen automatically and habitually, or must maladaptive responses always be inhibited, so that new, more adaptive responses can be intentionally selected? This is not easy to test because the assessment method must keep clients and readers blind to the hypotheses under investigation. It's an important question, probably worth doing, and probably can be done.

Interpretations. What makes them effective? Does it lead to client disclosing new and important information. Is it the content of the interpretation, to make the unconscious conscious, or increasing understanding? Or is it the implicit emotional messages conveyed and the corrective effect that determines the outcome, not only in the session, but long term? Emotion focused training could include instruction and conveying implicit messages and interpretations. The question is, what is the goal of the implicit messages, and I think it relates to the need to think carefully about what constitutes a corrective experience and it has something to do with meeting the unemotional need which would be defined by the CCRT or your measure of recurrent maladaptive pattern.

Primitive defenses and the role of mental representation deficits. I put forward the idea that with projective identification, splitting dissociation and somatization, that these are primitive defenses, all associated with mental representation of emotion deficits. I think that this is an important set of questions, and I would like to see research be done on it. What is the time course for overcoming deficits? How are they overcome and what process are needed? Once they overcome, have their clients describe what made overcoming them possible, what emotions were defended against, and were the emotions formulated for the first time? The idea in trauma is that the emotions are unformulated, and that's one of the things that makes it intolerable. It will be interesting to see how progress is made and then what people say about it afterwards. I think that would be very interesting.

I'm getting into some of the things we've talked about previously. But just to put it all together: napping and time of day with therapy sessions. Sleep is necessary for consolidation, and reconsolidation of memories. 20-minute power naps. Do a study of that. What would the comparison conditions be? Well, you'd have another group do 20 minutes of reflection after therapy, or just 20 minutes of relaxation, or just 20 minutes of sitting in a room with no instruction. Does that lead to a difference in outcome? You could attach EEG electrodes to the cap and get a sense of sleep stage during these naps. With actigraphy you could do it without the EEG. This question about the reconsolidation window being open for 6 hours. What happens during those 6 hours? Are stressful things happening after you leave the session or not? Are the benefits of a corrective experience undone by post session, stress? Stephan has raised the question about time of day. That would be an interesting and relatively straightforward thing to look at. I think it's potentially complicated, because if you there would be. That isn't. I love your work well, you know, maybe not stressful. I think you have to kind of look at what's happening. But it can be looked at and memory reconsolidation theory would say that it matters.

We have talked about avoiding medications that inhibit REM and it's not easy, it's complicated. There is this two-stage model of outpatient treatment that we in psychiatry follow, which is, if you have a diagnosable condition and the patient is willing, and we think that medication would help, we prescribe medication to try to treat the symptoms and maybe even get them into remission. The combination of psychotherapy and medication is optimal. We also want to do psychotherapy to prevent relapse. This is where medications that inhibit REM could be problematic. Controlled trials suggest an advantage to continuing an antidepressant relative to placebo and preventing relapse. You would not want to discontinue antidepressant medication if the patient has had three previous episodes. However, in depressed patients in remission for 6 months, preceding psychotherapy, you could compare relapse rates, and those who discontinue antidepressants compared to those who don't.

Use of medications to destabilize priors. Older, stronger, and more differentiated memories are hardest to change. Hallucinogens are most used to treat specific conditions such as depression, PTSD, and substance dependence. In these contexts, the psychotherapy is primarily used to ensure a good experience with the hallucinogen. An alternative is to have psychotherapy drive the change process. New research is needed to explore whether a low or very low dose of hallucinogens can promote neuroplasticity or in computational terms, decrease the precision of highly precise priors and expedite how quickly change that is enduring can occur. Retreat style program in day hospital or intensive outpatient treatment. The idea is to personalize the treatment program based on the assumption that memory reconsolidation is the principal mechanism of change. You have sessions that wouldn't necessarily be 45 minutes. You might end the session when a corrective experience has occurred as judged by the therapist. Then you take a nap or if you don't take a nap, monitor your post session activities. Consider the possibility of more than one session per day, arrange opportunities to practice new ways of construing and responding to situations due to the corrective experience in other contexts outside therapy, avoid medications that inhibit REM, and compare response and relapse rates to the treatment as usual. In other words, we'd be modifying the day hospital program. In one case have a traditional day hospital program, the other see if the results are different.

The guiding hypothesis is that the internal working model is kind of frozen due to the need to avoid intolerable affect. Effective psychotherapy liberates the internal working model to flexibly respond to life circumstances. Upon completion of treatment, the client has the tools to resolve issues on their own and there are some studies that indicate that improvement continues after therapy. You can use the Shedler-Westen method to assess functioning, not just symptoms. We can evaluate whether the CRT continues to change. Certainly, if the present continues to improve, that will certainly help to ensure that it is enduring change relative to the end of therapy.

Conclusions. Defining the change process in psychoanalysis and psychodynamic psychotherapy in a way that's clearly defined and measurable is essential. The current approach focused on recurrent interpersonal patterns and transforming, intolerable emotional distress is more empirically tractable than resolution of unconscious conflict. Dozens of research questions have been posed that can be empirically tested and falsified. New methods need to be developed to capture the essential ingredients and processes. In this context, this program of research will require active collaboration and engagement of psychotherapy researchers as well as sources of funding. Such research will help to ensure the long-term survival, as well as optimizing the effectiveness and efficiency of psychoanalysis and psychotherapy.