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There are no conflicts of interest to report.

At the heart of our ability to successfully communicate and build relationships with one another is an essential capacity for conceptualizing and understanding mental states in the self and in others.

Empathy is the ability to understand and feel into the mental states of another. Previously, we have spoken about how cognitive empathy can be defined as the ability to read and put to words others emotions and perspectives. An example of this is when you might see an expression of anger and hear someone say they are frustrated, and repeat back to them, "I can see that is frustrating." The other form of empathy is known as affective empathy, which means to feel into another's emotions. This can be seen when a baby cries when a mother is crying—the baby is feeling and repeating mom's emotions.

There is a deeper concept that might be considered broader than empathy called "mentalizing," which contains both cognitive and affective empathy, but also contains understanding one's own emotions and states. Mentalizing is knowing both your own internal states (emotions, beliefs, needs, goals and desires) and also the states of another. In episode 206, we spoke to the founders of mentalization-based therapy, Peter Fonagy and Anthony Bateman, which is evidence-based for the treatment of borderline personality disorder.

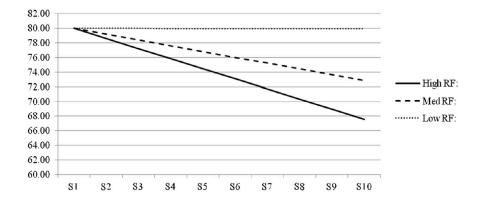
In this current episode, we discuss "reflective function," which is a precursor to the concept of mentalization. Reflective function is best understood not as synonymous with mentalization, but as a scale from -1 to 9, based off certain adult attachment interview questions that measure the person's ability to describe their own and others' internal states, motivations, and articulate a nuanced and unique understanding of life from 0 to 12 years old. This scale was developed by attachment researchers at the University of London, including Dr. Howard Steele and Dr. Peter Fonagy.

We know that in attachment relationships it can be harder to see reality clearly because there are a myriad of developmental issues that are colliding. So the capacity to speak coherently, sophisticatedly and without distortions can be difficult. It is likely, for this reason, that having a high degree of internal reflection into the world of the early attachment figures leads to success as a therapist. A study by John Cologon et al. in 2017 found that 70.5% of what separated the best and worst therapists (as rated by average patient outcomes) related to the therapist's reflective function.

Figure 1 from the study shows the therapists split into three groups. The OQ-45, which is a good measure for session-to-session change, decreased substantially more for patients with therapists scoring in the highest reflective function group. The lowest reflective function group saw no change.

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Fig. 1 OQ score trajectories for clients of low, medium and high RF therapists. Greater negative slope means greater improvement



Reflective functioning is a validated standard for evaluating a person's capacity for understanding the emotions and behaviors of others. It provides meaningful insight that is being applied in many areas of research, including parenting and childhood development, trauma healing, and even the improvement of therapist efficacy.

Howard Steele, PhD.: Exploring the Applications of Attachment Theory

Howard Steele is a full Professor of Psychology at the <u>New School for Social Research in New York City</u>, where he studies attachment and human development.

His academic and research concentrations include attachment theory, intergenerational patterns of attachment, mourning in response to trauma and loss, and attachment-based interventions to promote secure organized attachments and prevent child maltreatment.

Dr. Steele is currently the President and Co-Director of the <u>Center for Attachment Research</u> (<u>CARS</u>) at the New School, and is editor for their research journal, *Attachment and Human Development*. Howard is married to Dr. Miriam Steele, who is also Co-Director of CARS and has been a frequent collaborator, researcher, and co-author with him on numerous publications.

Steele was also the founding president of the <u>Society for Emotion and Attachment Studies</u> (<u>SEAS</u>).

Through his professorship at The New School for Social Research and his leadership at CARS and SEAS, Dr. Steele is a dedicated mentor, educator, and researcher who is passionate about cultivating the next generations of inspired research and clinical progress.

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Steele has authored and co-authored numerous journal articles and several books throughout his career.

Books:

<u>The Handbook of Attachment-Based Interventions</u>, Dr. Howard Steele & Dr. Miriam Steele, 2017 <u>Clinical Applications of the Adult Attachment Interview</u>, Dr. Howard Steele & Dr. Miriam Steele, 2008

Research:

For an exhaustive list of Dr. Howard Steele's academic publications, visit: https://center-for-attachment.com/journal-articles-books/

The Development of Reflective Functioning

In 1986, Howard Steele began his doctoral studies at the University of London where he met many influential people including Dr. Peter Fonagy. Fonagy and Steele worked together in researching the role of attachment styles in pathological affective disorders, specifically borderline personality disorder.

During this time, Steele and his colleagues were using a new interview tool published in 1985 by Mary Main et al., called the Adult Attachment Interview.

As Steele describes in this episode, the Adult Attachment Interview (AAI) "asks people to talk about their childhood experiences with mother and father as far back as they can remember."

When looking at the AAI to assess reflective function, there are certain questions that are used in particular: 'Why do you think your parents behaved as they did during your childhood?'"

Importantly, the interview frequently uses words like "why" and "how" in the phrasing of its questions in order to allow subjects to reflect and think deeply about what might have been going on in their childhood; however, the subjects may give vague, cliche, or impersonal responses (which would be lower reflective function). These are questions that "demand evaluation and demand reflection," as Steele describes them.

Example:

<u>No. 4 -</u> "I'd like to ask you to choose five adjectives or words that reflect your relationship with your mother starting from as far back as you can remember in early childhood—as early as you can go. Why did you choose these words?"

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<u>No. 6 -</u> "When you were upset as a child, what would you do?" Follow up: "How did you respond to being separated from your parents?"

Question number 11, in particular, stood out to Steele as something unique:

"Why do you think your parents behaved the way they did during your childhood?"

This specific question prompts participants to consider the thoughts and feelings of others, not just their own mental state. Inspired by this shift in perspective, Steele and his team recognized that the self-focused metacognitive monitoring process could be expanded upon to focus on the process of how we monitor and think about the mental states of others.

Steele, Fonagy and colleagues eventually called this interpersonal-mindedness process reflective functioning. They speculated that a person's capacity for reflective functioning could play a significant role in the way attachment bonds are established and maintained.

Even though ideas about Theory of Mind go back many decades, and this concept of "interpersonal-mindedness" wasn't wholly new, there were no existing methods for measuring these capacities.

So, Steele and colleagues developed and published the *Reflective Functioning Manual*, including the Reflective Functioning Scale, as a reliable method for evaluating and measuring a person's capacity for simultaneous self-awareness and awareness of the mental states of others.

A person's reflective functioning is not the empathy they have for others, but is, specifically, the cognitive and emotional capacity they demonstrate underneath their perception of others and self.

Reflective Functioning and Attachment

The application of the RF Scale while evaluating responses to the Adult Attachment Interview can provide insight into how a person's perception of others impacts their attitudes about themselves, their behaviors towards others, and their ability to cultivate meaningful relationships.

This evaluation provides insight into how adults may feel they have learned to perceive others, feel safe, value themselves, and respond to challenges and aspirations throughout their lives.

"Reflective functioning is the developmental acquisition that permits children to respond not only to another person's behavior, but to the children's conception of others' beliefs,

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feelings, attitudes, desires, hopes, knowledge, imagination, pretense, deceit, intentions, plans and so on.

RF or mentalization enables children to 'read' other people's minds (BaronCohen, 1995; Baron-Cohen, Tager-Flusberg, & Cohen, 1993; Morton & Frith, 1995).

By attributing mental states to others, children make people's behavior meaningful and predictable. As children learn to understand other people's behavior, they can flexibly activate, from the multiple sets of self-other representations they have organized on the basis of prior experience, the one(s) best suited to respond adaptively to particular interpersonal transactions" (Steele, et al., The Reflective Functioning Manual, p. 5).

Creativity, Metaphor, Openness and Reflective Functioning

In the episode, Dr. Puder and Dr. Steele comment on the relationship between higher reflective functioning and traits such as creativity, curiosity and openness.

"It is the capacity to be patient, to be reticent if you like, to wait and see and listen and ask questions and form a judgment that you have high confidence in, but not absolute confidence in" (Steele).

Having a higher degree of openness is associated with a willingness to become familiar with the unfamiliar, to seek new experiences and perspectives. It also may motivate a person to become more curious and to slow down and be patient in order to more carefully observe and understand new experiences.

High openness is also often related to creativity, and to a significant degree creativity, patience and curiosity are all important factors in a person's ability to coherently observe, reflect on, and imagine the mental states of others.

The value and significance of metaphor is also discussed briefly, with Steele suggesting that there is an overlap between the use of metaphor and reflective functioning. A person's ability to think and communicate in metaphor requires them to understand how another person is likely to interpret their meaning from an abstract expression.

One person must imagine how to best express the idea symbolically, and the other person must imagine what the symbolic expression means. This is more successfully accomplished with higher reflective functioning.

In fact, people who are higher in reflective functioning may even engage in metaphor as play, for sheer enjoyment and exploration (i.e., poetry, art, literature, music, etc.).

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Individuals who are lower in reflective functioning may also have a lower degree of openness and curiosity about the unfamiliar. This may relate to a lower degree of interest in interpreting unclear symbolic expressions, and may even be associated with an outright rejection of symbolic, non-literal expressions.

Dr. Puder suggests that this higher degree of creativity, openness, and reflective functioning may contribute to higher effectiveness among therapists because they are more eager and motivated to engage their clients with natural curiosity and have a natural inclination to listen patiently, attempting to understand the inner world that clients are trying to communicate.

Further, having a therapist with higher reflective function means that, in their own attachments, they have a depth of understanding and a coherent narrative to make sense why things occurred as they did in their childhood. This depth of knowing themselves may allow them to be curious, open, and empathic to the patient's experience, knowing in a more articulate way when the patient's attachment themes are showing up in the here-and-now relationship with them (transference) or when their own reaction is painted by their childhood (countertransference).

The Reflective Functioning Manual

The primary clinical tools within the manual are an 11-point Reflective Functioning Scale and a comprehensive list of 23 score-indicators that describe how to evaluate the responses given while administering the Adult Attachment Interview.

The manual also provides an extensive explanation of reflective functioning, how it relates to metacognition and mentalizing, and how it influences attachment and behavior.

- Published in July, 1998 through the University of London
- Authors: Peter Fonagy, Mary Target, Howard Steele, Miriam Steele
- Synopsis: 47-page manual that:
 - <u>Defines</u> reflective functioning, metacognition, and mentalizing skills.
 - <u>Describes</u> how these abilities provide insight into human behavior, attachment, and mental health.
 - <u>Validates the measure</u>: Provides detailed summaries of research that validate the RF measure.
 - <u>Evaluates Responses</u>: Explains how to assign scores to responses using a range of 23 different assessment values (evaluating the level and characteristics of RF demonstrated by each response).

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- <u>Scores Assessments</u>: Explains how to assign a final assessment on an 11-point RF Scale based on the scores throughout the interview.

The manual itself is dense and rich with information detailing how reflective functioning is conceptually distinguishable from mentalizing and metacognition.

It also provides a thorough and fascinating look at the history of psychological research and theory that led to the development of the idea of reflective functioning: from Freud's "Bildung" to Dennett's three steps in the prediction of behavior to theory of mind and metacognition and Bowlby, Ainsworth and Main's work in attachment theory.

The text continues with in-depth sections on the psychological process of developing mentalizing skills, an exploration of the key research studies that validate the RF measuring process, and important general considerations for clinicians using the manual for evaluating AAI responses.

Such general considerations include:

- Only explicitly reflective statements qualify for high ratings.
- Learned, rote or cliché statements do not qualify for high ratings (3 or lower).
- Avoid leading or thinking for the subject.
- Do not limit the scope of a person's mental states to their formal diagnoses.

The central-most purpose of the manual is its detailed list of 23 response indicators and the 11-point Reflective Functioning Scale, which are used for evaluating responses to the Adult Attachment Interview and assigning a final score that measures a person's demonstrated level of reflective functioning.

The 23 response indicators are broken out into four key domains of reflective functioning.

Four Domains of Reflective Functioning

Listed below are all 23 response indicators within their respective RF domains.

(Section 4: Illustrations of Moderate to High RF)

4.1- Awareness of the Nature of Mental States

- *4.1.1: The Opaqueness of Mental States
- *4.1.2: Mental States as Susceptible to Disguise
- *4.1.3: Recognition of Limitations of Insight

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- 4.1.4: Mental States tied to expressions of appropriate normative judgements
- 4.1.5: Awareness of the defensive nature of certain mental states

4.2- Explicit Effort to Tease Out Mental States Underlying Behavior

- *4.2.1: Accurate attributions of mental states to others
- 4.2.2: Envisioning the possibility that feelings concerning a situation may be unrelated to the observable aspects of it
- 4.2.3: Recognition of diverse perspectives
- 4.2.4: Taking into account one's own mental state in interpreting other's behavior
- 4.2.5: Evaluating mental states from point of view of its impact on behavior of the self and/or other
- 4.2.6: Taking into account how others perceive oneself
- 4.2.7: A freshness of recall and thinking about mental states

4.3- Recognizing Developmental Aspects of Mental States

- 4.3.1: Taking an intergenerational perspective
- 4.3.2: Taking a developmental perspective
- 4.3.3: Revising thoughts and feelings about childhood in light of understanding gained since childhood
- 4.3.4: Envisioning changes of mental states between past and present, and present and future
- 4.3.5: Envisioning transactional processes between parent and child
- 4.3.6: Understanding factors which developmentally determine affect regulation
- 4.3.7: Awareness of family dynamic

4.4- Mental States in Relation to the Interviewer

- *4.4.1: Acknowledging the separateness of minds
- *4.4.2: Not assuming knowledge
- *4.4.3: Emotional attunement

Each of the key domains and subdomains, or response-indicators, in Section 4 represent criteria that suggest **Ordinary to Higher Reflective Functioning**.

There are 7 response indicators specifically associated with **Negative to Low Reflective Functioning**, which are found in Section 6:

6.- Illustrations of Negative or Low RF

6.1: Possible implications of subtypes of low RF

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- *6.2: Rejection of RF
- *6.3: Unintegrated, bizarre or inappropriate RF
- *6.4: Disavowal of RF
- *6.5: Distorting or self-serving RF
- *6.6: Naive or simplistic RF
- *6.7: Overly-analytical or hyperactive RF

In the episode, Dr. Steele discusses several of these concepts, some briefly and some at length.

The Opaqueness of Mental States:

This is the idea that the person who is receiving the adult attachment interview demonstrates tentativeness about their perception of other people's feelings or thoughts. They're acknowledging that this task is complex and often "opaque," or not completely clear.

"The speaker acknowledges the difficulty one has in being sure of what the other's intention or mental state is or was, while being prepared to guess.

Thus, the statement, 'I thought my mother felt resentful of us, but I'm not really sure if she felt that way herself,' (score of 5) would be regarded as reflective, whereas the statement, 'One can never know what anyone else thinks,' (score of 1) would not, without a suggestion as to what may have been thought" (Steele, et al., The Reflective Functioning Manual, p. 15).

Mental States as Susceptible to Disguise:

Related to the issue of opaqueness is the possibility of deliberate disguising of internal states. Recognition of this possibility may be implicit or explicitly stated.

A common example would be instances of awareness that the individual may experience different emotions to the ones they display, and may refer to the other or to the self.

"I am so angry at her...but I would never show that to her" (p. 15).

Recognition of Limitations of Insight:

Another sign of awareness of the nature of mental states is the explicit qualifying of insight concerning oneself or others (i.e., awareness of one's limitations in being able to understand self and others):

^{*}Indicates a response-indicator criteria that was discussed in this episode.

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"I had a lot of respect for my mother, although sometimes she infuriated me because she was a very anxious person and would get very uptight about things and sometimes get a little bit hysterical. I think she was very insecure in her relationship with my father, but I don't know if that was true" (p. 15).

Intergenerational Perspective:

Basic to attachment theory is the assumption that parenting behavior is fundamentally influenced by parents' thoughts and feelings regarding their childhood relationship experiences.

Statements showing awareness of this intergenerational exchange of ideas, feelings, and behavior is considered reflective as long as the references made are explicit and specific.

"My mother expected great things from her children because, as I've been saying, so much had been demanded of her by my grandparents and, at least in my mother's mind, I believe, she never lived up to those unrealistically high expectations, and so hoped that we would" (p. 17).

Developmental Perspective:

Some subjects show awareness of developmental changes in certain mental states. This is regarded as reflective because it assumes that the subject is making assessments of either their own or other's changing perspective with age.

"When we were little, my father always seemed to have time for us and we would have so much fun together, but then as we got older he withdrew and had difficulty, I think, getting on with teenagers" (p. 18).

Recognition of Diverse Perspectives:

The speaker explicitly acknowledges that different people may perceive a given behavior or situation differently.

"My father thought it was fine for Mr. X (the teacher) to behave like that, that it would teach us self-discipline and that kind of stuff. My mother thought that it was appalling to treat children that way. I think he just didn't know what was going on. How all the children felt" (p. 16).

Steele suggests that having an openness to literature, poetry, art and exposure to unfamiliar cultures is a good way to increase reflective functioning in this category.

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Mental States in Relation to the Interviewer:

A subject's recognition of mental states might be shown by their interaction with the interviewer, which we take as an indication of the subject's willingness to entertain mental states in the context of other relationships. This tendency may again be revealed in a number of ways:

Regarding the work of the therapist: "Each of us tries to imagine what the aims, goals, and purposes of the other are in this conversation. I think that simply engaging in curiosity, organized curiosity about the motives that underlie behavior and the mental states that are the consequences of behavior is going to be very helpful" (p. 19).

The Reflective Functioning Scale (Section 7 in Manual)

The scale is rated using values ranging from -1 through 9, with two-point differentials between each score. Thus, the numbers 0, 2, 4, 6 and 8 allow for flexibility in assigning scores that may lay in between key values.

In the episode, Steele gives some insight on why the scale uniquely starts at -1 instead of 0 or 1.

Negative one answers often are a harsh rejection of reflective function like, "How the hell would I know?" or, "I don't know—you tell me!"

In the episode, Steele gives some insight on why the scale uniquely starts at -1 instead of 0 or 1.

He realized that they needed to create a minus-one score when they looked at interviews from people incarcerated for violent crimes and people incarcerated for repeat drunk driving offenses.

"These are people who have not been well loved, who have not been given the experience of interacting joyfully with another human being. They've probably had a lot of harsh, very abusive experiences, and often are abusive in return.

People who commit violence toward other people, it makes sense that they wouldn't have an appreciation for the humanity of the other. And if you don't have that appreciation, then you can, of course, behave quite dismissively and violently" (Steele, 00:07:47).

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With these individuals, Steele found there was not just a lack of reflective insight (score of 0-1), but often an outright rejection or hostility towards the consideration of others' thoughts and feelings. By setting the low-end score at -1, the scale was able to represent responses that showed dismissive and rejecting attitudes toward reflective functioning.

Any scores below a 3 are considered low reflective functioning. Scores of 7 and above are considered high reflective functioning.

"Low reflective functioning indicates a narrowing of the mind. High reflective functioning represents an opening of the mind to a range of possible considerations from a point of humility."

"One of the central characteristics of high reflective functioning is that the speaker shows an awareness of the limitations on understanding."

"You don't get a high score for saying, oh, why did my parents behave the way they did? I know exactly why they behaved the way they did. That's not possible. It's not possible for us to have a transparent, clear understanding of our own minds [let alone that of others]" (Steele).

This refers to "The Opaqueness of Mental States" (4.1.1).

People with RF scores of 3 or lower may be completely disinterested in, hostile towards, or absolutely certain of their perception of others' mental states.

People with RF scores between 3 and 7 may acknowledge that others have their own feelings about things but may "give up on" the task of imagining the mental states of others if they are not expressed clearly.

People with scores of 7 and higher are not dissuaded by the uncertainty of knowing another person's true state of mind; they're still willing to venture an intuitive guess and allow themselves to imagine how others may be feeling or thinking.

The RF Scale:

-1. <u>Negative Reflective Functioning</u>: Responses must be anti-reflective, hostile, evasive, bizarre or inappropriate. These responses are usually because questions are perceived as a form of attack.

"How the hell should I know what my parents were thinking? You're the doctor, why don't you tell me?"

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"I know exactly what they were thinking, they wanted to ruin my life because their life sucks so bad and they didn't want me to be better than them."

- 0. Somewhere between -1 and 1
- **1. <u>Absent but not repudiated RF</u>:** Passively evasive, little to no hostility, no evidence of awareness of mental states, excessive self-distortions or grandiosity, leaves interviewer with little useful information.

"I'm sure they knew I'd be fine by myself. Besides, they had to work all the time anyway. It didn't really bother me so it probably didn't bother them either." (Overly self-confident, passively avoids thinking about how their parent's may have been feeling about leaving them alone.)

- 2. Somewhere between 1 and 3
- **3.** <u>Questionable or Low RF</u>: Responses contain some suggestion of mentalizing efforts, however, reflective functioning capacity is not explicit, subject does not demonstrate clear understanding of the implications of their statements. Responses may be cliche, superficial, disorganized, excessively deep and detailed, yet unconvincing or irrelevant to the task.

"All parents want their kids to be happy, right? I'm sure that's what my parents wanted too, they just had to work. It wasn't all their fault." (Cliches, blaming circumstances)

"I don't know, fathers aren't usually supposed to be the nurturing type so I'm sure that's why he wasn't around. It's just not something that men do." (Cliches)

- 4. Somewhere between 3 and 5
- **5.** <u>Definite or Ordinary RF</u>: Responses contain some features which make reflection explicit, such as references to the nature or properties of mental states, how mental states relate to behavior. Responses are personal, not cliche, but not particularly sophisticated.

"Well, I'm sure they didn't like having to leave me on my own so often, and it probably disappointed them that they had to work so much. They probably worried about me being lonely, and I suppose I can see how that could explain some of the stress we had at home during that time."

6. Somewhere between 5 and 7

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7. <u>Marked RF</u>: Responses contain some features which makes reflection explicit, uses personal, original and sophisticated explanations, unusual level of detail and insight into the mental states of others, insight into influence of mental states on behavior.

"I'm sure it was tough having to leave me at home by myself so much. I know that I resented them working so much and not making arrangements for me to spend that time making friends with other people. They might not have had that kind of behavior modeled for them, after all. I can see how that kind of stress could have built over time, between them being frustrated and me being frustrated, and that this could have contributed to our frequent fighting at home."

- 8. Somewhere between 7 and 9
- **9.** <u>Full or Exceptional RF</u>: Unusually high degree of reflective functioning, among top 10% or less. Responses may contain vivid, but not inappropriate, levels of emotion. Responses are strikingly personal and meaningful. Capable of demonstrating significant awareness of mental states of any number of individuals in an interaction scenario.

"I think it must have broken their hearts having to spend so much time away from home, and leaving me on my own so often. We really lost out on a lot of opportunities to bond and get to know each other on a deeper level. I feel like we just kind of developed a superficial relationship as I got older. I think my parents really resented having to work so much—I know I resented them for that—and that probably led to more arguments than it should have. They probably really wanted the best for me, and really wanted to be there but didn't know how to make that work. I don't think they had close friends or felt like they could afford daycare, and that probably added to the stress."

Research and Effectiveness

In the episode, we discuss a number of important studies that helped hone the methodology and demonstrate the effectiveness of this measurement tool.

These studies outline the proving grounds but don't represent the extent of the application of reflective functioning. Today, researchers and clinicians are continuing to explore ways that the application of reflective functioning can help improve resources for childhood development and parenting, counseling and rehabilitation programs, and even for training of educators, therapists, and care providers.

Therapist Reflective Functioning, Therapist Attachment Style, and Therapist Effectiveness.

Cologon, J., Schweitzer, R., King, R., & Nolte, T. (2017)

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Administration and Policy in Mental Health and Mental Health Services Research, 44(5), pp. 614-625. University College London.

This study investigated the relationship between two therapists attributes (reflective functioning and attachment style) and client outcome.

Twenty five therapists, treating a total of 1,001 clients, were assessed using the Adult Attachment Interview and the Experiences in Close Relationships Scale.

The outcome was measured using the Outcome Questionnaire (OQ-45).

The researchers found that the therapists with the highest reflective function had the best outcomes. This accounted for 70.5% of what made the best therapist the best therapist.

"The most widely used method of estimating the variance accounted for proportional reduction in variance (Bryk & Raudenbush, 1992) suggests that **70.5%** of the variance in therapist effectiveness is accounted for by RF."

Results:

"Attachment style did not make a significant contribution to the model.

The high RF group consists of those therapists with an RF score of 7 or higher.

The medium RF group contains therapists scoring higher than 5 and lower than 7.

The low RF group consists of therapists scoring 5 or lower on the RF scale (i.e., lower than normal RF).

It is evident from the slopes that the level of symptoms of the clients of therapists with high RF decreased substantially over time. In other words, these therapists with marked to exceptional reflective function were the most effective.

The level of symptoms for clients of therapists with medium levels of RF also decreased over time, but to a lesser extent than for those of high RF therapists.

Low RF therapists had negligible effect on client symptoms."

Cassel Hospital Study

The relation of attachment status, psychiatric classification, and response to psychotherapy.

By Fonagy, P., Leigh, T., Steele, M., Steele, H., Kennedy, R., Mattoon, G., Target, M., Gerber, A. Journal of Consulting and Clinical Psychology, Vol 64(1), Feb 1996, 22-31.

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For this study, a sample of 82 out of 85 consecutively admitted non-psychotic inpatients at the Cassel Hospital participated in being administered the Adult Attachment Interview.

The study examined the association between reported physical and sexual abuse, RF scores, and a diagnosis of BPD. To do this, they administered the AAI to all participants and then compared the responses between individuals meeting diagnostic criteria for borderline personality disorder (BPD) diagnosis, individuals reporting abuse in their history, and those without abuse or BPD diagnosis.

They also ran a control study administering the AAI to 85 participants in an outpatient setting meeting "normal" control criteria.

Results:

The study found that participants with a history of physical and sexual abuse were more likely to result in a diagnosis of BPD.

It also found that both victims of abuse and participants with BPD diagnosis were more likely to score lower in reflective functioning than those without abuse/BPD or controls.

"The likelihood of reported abuse being associated with BPD was greater in the group of patients with low RF than those with RF ratings above the median.

Only 4 of 24 (17%) patients reporting abuse in the high RF group were diagnosed with BPD, whereas 28 of 29 patients (97%) reporting abuse in the low RF group reporting abuse were diagnosed with BPD.

In the group not reporting abuse, the prevalence of BPD was the same in low and high RF groups (2 of 17 for high RF vs. 2 of 12 in low RF)."

Reflective function in the presence of abuse is highly predictive of BPD.

Prison Health Center Study

Offending and Attachment: The Relationship between Interpersonal Awareness and Offending in a Prison Population with Psychiatric Disorder.

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Fonagy, P; Levinson, A; (2004) Canadian Journal of Psychoanalysis.

Levinson & Fonagy (in preparation) collected AAIs from 22 prisoners with diagnosable psychiatric disorder and matched them with 2 control groups on age, gender, social class and IQ: 1) a psychiatric inpatient control group matched for diagnoses (Axis I/II) and 2) a normal control group recruited from a medical outpatient department. The findings may be summarized as follows:

- (1) There were significantly more secure attachments in the normal control group but the two clinical groups did not differ in terms of overall level of security.
- (2) 36% of the prison group vs. 14% of the psychiatric group were classified as "dismissing," with normal controls in between (23%).
- (3) 45% of the prisoners vs. 64% of psychiatric controls were classified as "preoccupied" with only 14% of non-criminal controls receiving this classification.
- (4) 82% of psychiatric patients, but only 36% of prisoners and 0% of non-clinical controls, received "unresolved" classifications.
- (5) 82% of prisoners and only 36% of psychiatric patients were rated as having been abused, with only 4% of normal controls (2/3 of abuse was physical, 1/3 sexual in both clinical groups).
- (6) Neglect was more prevalent in the prison group, but rejection was more frequently reported by psychiatric patients.
- (7) Current anger with attachment figures was dominant in psychiatric patients but relatively more among prisoners.
- (8) Prisoners had significantly lower ratings on the reflective function scale (2.5, SD = 1.8)) than either psychiatric patients (3.7, SD = 1.5) or those from the non-clinical group (5.8, SD = 2.3).
- (9) When the prison group was split into those with violent index offenses (murder, malicious wounding, GBH, armed robbery, indecent assault to child), vs. non violent ones (possession, importation, obtaining property by deception, theft, handling stolen goods) the rating on reflectiveness of the former group was found to be significantly lower than the latter.

Levy Study: Effectiveness of Treatment Modality in Changing RF

Change in Attachment Patterns and Reflective Function in a Randomized Control Trial of Transference-Focused Psychotherapy for Borderline Personality Disorder. Levy, K. et al. (2006) Journal of Consulting and Clinical Psychology, Vol. 74, No. 6.

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Table 5
Change in RF, Coherence, and Lack of Resolution of Loss and Trauma From Time 1 to Time 2

	TFP $(N = 22)$				DBT $(N = 15)$				SPT (N = 23)			
	Time 1		Time 2		Time 1		Time 2		Time 1		Time 2	
Measure	M	SD	М	SD	M	SD	M	SD	M	SD	M	SD
RF	2.86	1.16	4.11	1.38	3.31	0.95	3.38	1.15	2.80	0.80	2.86	1.28
Coherence	2.93	1.34	4.02	1.69	3.00	1.64	3.25	1.41	3.25	1.33	3.16	1.20
Resolution of Loss	2.39	2.62	1.80	2.11	2.63	2.80	2.78	3.02	1.52	1.98	1.68	2.08
Resolution of Trauma	2.09	2.22	1.41	1.48	2.44	2.54	2.06	1.96	1.61	2.29	1.23	2.10

Note. TFP = transference-focused psychotherapy; DBT = dialectical behavior therapy; SPT = supportive psychotherapy; RF = reflective function.

Changes in attachment organization and reflective function (RF) were assessed in one of the three year-long psychotherapy treatments for patients with borderline personality disorder (BPD).

Ninety patients reliably diagnosed with BPD were randomized to transference-focused psychotherapy (TFP), dialectical behavior therapy, or a modified psychodynamic supportive psychotherapy. Attachment organization was assessed with the Adult Attachment Interview and the RF coding scale.

In the transference-focused psychotherapy group, the start of reflective function was 2.86 and it increased to 4.11 by the end of treatment, whereas the DBT group showed no improvement, and the supportive psychotherapy treatment showed no improvement.

Findings suggest that 1 year of intensive TFP can increase patient's narrative coherence and RF.

Results:

The changes observed in RF in this study represent a significant shift in patient's capacity to mentalize the thoughts, feelings, intentions, and desires of self and others. Patients in the TFP group entered the study with a mean RF score of 2.86, which is similar to findings from an earlier study examining RF in a sample of participants with BPD (Fonagy et al., 1996).

In our study, only 4 of the 22 TFP patients (15%) entered the study with a score higher than 3 on the RF scale.

As compared with the other treatment conditions, patients in TFP showed a significant increase over the course of treatment in RF, with a mean score of 4.11 posttreatment (approaching

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ordinary or adequate RF) and almost two-thirds of the patients scoring 4 or better (72.7%, with 31.8% scoring 5 or above).

Conclusion

This is hopefully the first of many episodes where we'll explore the various ways that reflective functioning is associated with development, behavior, attachment and mental health. From improving patient assessments and evaluations and improving clinical outcomes to improving the effectiveness of therapists, there are numerous valuable applications for reflective functioning as a concept and a tool.

We highly recommend visiting the websites for the Center for Attachment Research and the Society for Emotion and Attachment Studies, reading the Reflective Functioning Manual, and reading any of the numerous studies by Steele, Fonagy, and others for more information.

As always, thank you for listening to the podcast and joining us in our curiosity!

Sign up for a class with Dr. Steele: SteeleH@newschool.edu