



Motivational Monitoring: How to Identify Ruptures and Impasses and Enhance Interpersonal Attunement

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Abstract

Attachment theory is useful, but per se it may not be sufficient to understand the complexity of human relationships. For this reason, we believe that there is the need to refer to a broader (evolutionary theory of motivation; Liotti, *Psychoanal Inquiry* 37(5):319–331, 2017) that considers normal functioning as the result of the harmonious activation of various motivational systems, each aimed at achieving an objective of high evolutionary value (adaptive for the individual, the social group, and the species). In this approach, pathology results from the disharmonious and dysfunctional activation of one or more motivational systems. This leads to a theory of care aimed at modulating the maladaptive activation of motivational systems by recognizing each patient's dysfunctional interpersonal schemas and restoring his ability to function in more flexible ways. Motivational monitoring allows us to recognize impasses/ruptures within the therapeutic alliance and effectively use interventions to restore it. It may enhance patients' emotional regulation and the interpersonal attunement between patient and therapist, reducing the risk of dropouts and leading to better therapeutic outcomes.

Keywords Evolutionary theory of motivation · Therapeutic alliance · Interpersonal motivational systems · Motivational monitoring · Impasses · Ruptures

Introduction

Attachment theory has changed the approach of many clinicians and researchers, but per se it may not be sufficient to fully understand the complexity of human functioning, particularly concerning what happens within the patient–therapist relationship (Liotti 2017; Slade 2008), since various and complex phenomena characterize it. In our opinion, this complexity can be better understood by referring to other motivational systems, which—like the attachment one—evolved to regulate behaviors and emotional states.

The evolutionary theory of motivation (Liotti 2017; Cortina and Liotti 2014) postulates that, under normal conditions, human functioning depends on the harmonious and flexible activation of different motivational systems. Psychopathology is thus viewed as an epiphenomenon of the rigid and dysfunctional activation of the motivational systems associated with the subject's main maladaptive interpersonal schemas and cycles (Dimaggio et al. 2006; Safran and Segal 1996; Semerari et al. 2007). Moreover, motivational dysregulation can cause a lack of attunement and cooperation between patient and therapist. This, in turn, may produce impasses and crises within the therapeutic alliance (Liotti and Monticelli 2014). George and Solomon (2011) stated that sensitivity and interpersonal coordination allow us to be attuned to others' emotions and motivations, thus creating harmonious exchanges both verbally and non-verbally: in our opinion, this is particularly relevant for psychotherapy. Interpersonal coordination (i.e., interpersonal attunement) is related to a better therapeutic alliance and rapport, higher levels of cooperation between the patient and the therapist, and better therapeutic outcomes; for an extensive review on this topic, see Wiltshire et al. (2020). This leads to a treatment theory that emphasizes the importance of modulating

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the activation of the patients' motivational systems within the therapeutic relationship—the best context for identifying any dysregulation, understanding it together with the patient, and promptly regulating it (Safran and Muran 2000).

If the therapist is able to monitor in real-time each motivational sequence activated within the therapeutic relationship, he or she will be able to identify the signals of a lack of attunement and cooperation, which reflect the presence of an impasse or rupture. The therapist will thus be able to start an effective reparative process. In literature, there is broad consensus on the fact that: (a) a good therapeutic alliance strongly predicts positive outcomes (Horvath et al. 2011; Martin et al. 2000; Norcross and Wampold 2011); (b) a poor therapeutic alliance is associated with a higher risk of drop-outs (Samstag et al. 2008); (c) successful reparative interventions are associated with higher treatment adherence and good psychotherapeutic outcomes (Safran et al. 2011); and (d) that monitoring the therapeutic relationship significantly improves psychotherapy effectiveness (Lambert and Shimokawa 2011; Norcross and Wampold 2011). To cite Eubanks et al. (2018): “In addition to recognizing ruptures, therapists also need to be able to track the therapeutic process and determine when a rupture has been resolved sufficiently to shift to different clinical strategies.”

Monitoring which motivational system is active in the clinical dialogue—moment by moment and by both parts—is a vital element of the therapeutic intervention. It allows us to identify moments of lack of cooperation and misattunement (e.g., crises in the therapeutic alliance), differentiate among different kinds of ruptures/impasses, foster an in vivo knowledge of the patient's dysfunctional schemas and cycles (Safran and Segal 1996), and promote the patients' metacognitive process as well as their emotional regulation (Monticelli 2017, 2020). In our approach, therapists continually monitor the therapeutic relationship both by focusing on their mental states—suggestive of the patient's emotional states (Hatfield et al. 1994)—and using the AIMIT (Assessing Interpersonal Motivation in Transcripts; Liotti and Monticelli 2008) method.

The purpose of this article is to present a clinical approach aimed at modulating the dysregulated activation of motivational systems and emotions through an in-depth knowledge of the mechanisms from which they originate.

Motivational Systems and Theory of Normal Functioning

According to Senn (1977), since 1957 Bowlby's effort was to integrate ethology, psychoanalysis, and Darwin's evolutionary principles with empirical and observational data about children's behavior. Even if when formulating attachment theory Bowlby (1969) has focused his attention

on three motivational systems (attachment, caregiving, and exploration), he has also pointed out the need to investigate other motivations further, specifying that internal working models possess a general function. Not many years later, Price (1967) has described the adaptive value of the ranking system and its clinical implications. Noting the similarity between depressed patients' and defeated macaques' behavior, Price highlighted the evolutionary function of the behavioral and emotional reactions to defeat: anxiety, irritability, and depression are the emotional correlates of submissive behaviors necessary to maintain the hierarchical organization of the group. Moreover, other authors have pointed out how another predominant emotion among depressed patients, shame—which derives from the fear of losing one's social ranking—has an important adaptive value since it inhibits the aggressiveness of the dominant member within the group, and leads who feels it to avoid other potentially humiliating situations (Gilbert 1997; Kim et al. 2011; Wiechelt 2007). Later, Gilbert (2000, 2005) has postulated four motivational systems (*social mentalities*): careseeking, caregiving, cooperation, and competition. Gilbert has been one of the first authors to emphasize the role of cooperation among humans. In recent years, a growing body of researches has shown that in our species the motivation to help others and share our experiences with them has a biological basis (for an extensive analysis on cooperation, see Cortina 2017; Tomasello 2009).

Liotti (2017) has proposed a model to broaden Bowlby's attachment theory and its clinical implication: the evolutionary theory of motivation. In this approach, human functioning can be explained by referring to a wide array of motivational systems, that we will describe in detail later. According to Cortina (personal communication, 2020): “The great advantage of adopting a multi-motivational approach rather than traditional drive theories is that motivations function as homeostatic systems—similar to physiological systems that regulate blood sugar levels or maintain an acid–base equilibrium. As such, multi-motivational theories define a precise set of goals and functions for each system, describing what specific conditions activate and temporarily deactivate it. Each system is associated with basic affects that function as amplifiers of important adaptive functions—as Sylvan Tomkins (1962, 1963, 1991) pointed out in his groundbreaking affect theory. Anxiety and fear, for example, amplify signals of danger, while shame and guilt strengthen the importance of conforming to shared social norms (and are in fact activated by a violation of such norms)”.

There are other multi-motivational approaches, even though they seem less grounded on evolutionary theory. Lichtenberg et al. (2011), for example, has developed a theory that postulates the existence of seven motivational systems: physiological regulation, attachment, exploration

and assertion of preferences, aversiveness, sensuality/sexuality, affiliation with group, and caregiving.¹

In Liotti's theory, motivational systems allow us to achieve biosocial goals of high evolutionary value, adaptive for the individual, the social group, and the species (Liotti 1994, 2017; Liotti and Gilbert 2011). They are activated by environmental stimuli and can be regulated through our memories and expectations, such as those created by the development of Internal Working Models (Bowlby 1969). Their deactivation depends on the achievement of their goal or, in other instances, on the fact that such achievement has recurrently proven to be impossible. Some motivational systems are connected only to the activation of the reptilian brain, which can be considered the most ancient one (MacLean 1990). They are not aimed at creating any form of connection between conspecifics. Those are: the homeostatic system; the exploratory system; the predatory system; the territoriality system; the primitive sexuality system, and the survival defense system, which gets activated in responses to threats (Cortina and Liotti 2014; Liotti and Gilbert 2011). Limbic areas of the brain are instead associated with the activation of *interpersonal* motivational systems. They are: the attachment system, which aim is to achieve the protection of an attachment figure in conditions of vulnerability (Bowlby 1969); the caregiving system, which aim is to protect another conspecific perceived as vulnerable (George and Solomon 2008); the ranking system, which has two forms, dominance and submission, and which aim is maintaining the hierarchical organization of the group (Gilbert 1989/2016); the sexual system, which aim is to form a couple relationship; the cooperative system, which aim is achieving a common goal (Tomasello 2009; Hrdy 2009); social affiliation and play (Gilbert 1989/2016).

Finally, there is the intersubjectivity system, linked to the activation of neocortical areas. Like an orchestra conductor, intersubjectivity regulates every other motivational system (Liotti 1994/2005). The activation of neocortical areas is also linked to humans' ability to give meaning to their experience and share it with others through language, which reveals our emotions. In turn, emotions signal the activation and deactivation of each motivational system (Liotti 1994/2005; Panksepp 2004). It must be noted that when trauma occurs, the functioning of the intersubjectivity system is severely impaired, and with it, our ability to harmoniously combine the activation of different motivational systems and modulate our more primitive responses.

¹ For other non-evolutionary multi-motivational theories, see also Maccoby (1988) and Bleichmar (2008).

The Interaction of Motivational Systems: Intrapersonal Level

Bowlby (1969) described hierarchical motivational systems that allow us to achieve social goals. Sometimes, "latent" tendencies interfere with the dominant motivational system in a current situation, causing the activation of complex but partial behavioral sequences. Such sequences can be functional—for example when a bird stops eating if it sees a predator, restarting to feed itself as soon as the threat disappears. In other cases, however, the simultaneous activation of different motivational systems leads to ineffective behavioral sequences, because one system overpowers the other(s) or because they are conflicting with each other—when a nesting seagull is threatened by a predator and suddenly begins to preen its own feathers, for example.

Through the use of linguistic criteria, the AIMIT method helps us to identify which motivational systems are active in the clinical dialogue, both in transcripts (Fassone et al. 2012, 2016) and in real-time during sessions (Monticelli et al. 2018). The speaker's motivational sequences can be orderly and clearly distinguishable (harmonious transitions) or disorganized and chaotic (disharmonious transitions). A therapist's intervention that is both caring and harmoniously cooperative, such as: "*I know that it must have been a difficult moment for you (caregiving), but we should try to understand how this could have happened again (cooperation)*" is a good example of an harmonious transition. An example of a disharmonious transition is: "*Paolo is going to hit on me (sexual system)... poor guy, he's here in Rome all by himself (caregiving system)... but no, maybe he just wants to use me to get to know my friends (ranking-submission system)... what a loser! (ranking-dominance system) We have so much fun together, though (cooperative system)*". We will further discuss its implications in section "How to Use Motivational Monitoring: Theoretical Framework and Clinical Examples".

The Interaction of Motivational Systems: Interpersonal Level

The AIMIT method also allow us to identify how patient's and therapist's motivational systems can *interact* during the clinical dialogue. A single-case study (Monticelli et al. 2018, unpublished manuscript), examining the exchanges between a patient with dependent personality disorder and her therapist over the course of five sessions, has shown that, as predicted, the patient often activated her attachment system (e.g., continuously asking the therapist for help or complaining about her suffering). In 50% of the cases, though, the patient's activation of her attachment system *followed* the therapist's activation of the ranking-dominance one (prescriptive or critical interventions, such as: "*Instead of keep*

fixating on your past, you should start facing your present fears”). In another 26% of cases, the patient’s activation was followed by such agonistic interventions. It is likely that in the first case the patient was asking the therapist for protection to stop him from being prescriptive (or critical) and reestablish a caring and safe atmosphere. In the second one, instead, it is possible that the therapist was assuming a prescriptive (or critical) stance to reduce the patient’s constant demands for care. Using motivational monitoring, the therapist could have understood that his agonistic interventions were not appropriate, since they elicited frequent requests for care in a patient with dependency issues—colluding with her dysfunctional interpersonal schemas and cycles (Dimaggio et al. 2006; Safran and Segal 1990; Semerari et al. 2007)—without creating opportunities to jointly explore the patient’s problems. Moreover, the therapist would have recognized the need to use more effective interventions to reduce the patient’s request for care and reassurance, for example encouraging a more cooperative dialogue between them (e.g., “*We should try to understand why you are so afraid to put yourself out there*”).

Monitoring what motivational systems are active in the clinical dialogue and the patient metacognitive functioning level moment-by-moment (Carcione et al. 2011), the therapist can infer which motivational stance (e.g., caregiving, prescriptive, cooperative or humorous) could foster (or reduce) a joint and cooperative exploration of the patient’s issues.

The way in which motivational systems interact during interpersonal exchanges is very interesting. For example, if the ranking system is activated, cooperation often tends to diminish, while the activation of the attachment system seems to modulate the negative effects of a failure, both because it promotes a sense of safety (Sloman and Taylor 2016) and because it can mitigate the adverse effects of a prolonged activation of the defense system (frequent in case of trauma; Liotti 2017).

The Interaction of Motivational Systems: Developmental Level

Sloman and Taylor (2016, p. 5) maintain that “Human attachment theory and social rank theory are *conceptually interrelated* [...] and *empirically intercorrelated*, with greater attachment insecurity associated with greater negative social comparison and submissive behavior”.

Avoidant/Dismissing individuals often deactivate attachment through the activation of the ranking and the exploration systems, thus reorganizing themselves on self-reliance or on the pursuance of competitive success (Hilburn-Cobb 2004). Adopting a developmental perspective, in the next section we will see how the vicarious activation of other

motivational systems than the attachment one (often resulting from attachment disorganization) could be a factor underlying the development of personality disorders or maladaptive personality traits.

Theory of Mental Suffering: Factors That Favor Motivational Dysregulation

Attachment Disorganization

In disorganized attachment, the presence of multiple and poorly integrated internal working models leads to an abnormal, chaotic and undifferentiated activation of motivational systems, which creates a significant difficulty in coordinating interpersonal exchanges (Solomon and George 2011). Attachment disorganization represents a significant risk factor for the development of post-traumatic stress disorder symptoms (Cloitre et al. 2008), dissociative reactions in response to traumatic experiences (Cassidy and Mohr 2001; Liotti 1992; Liotti and Liotti 2019; Ogawa et al. 1997), emotional dysregulation (Schore 2003) and mentalization deficits (Fonagy 2003). A child with attachment disorganization feels “a fear without solution” that compromises his ability to organize himself and to respond adaptively to environmental difficulties (Hesse and Main 2000). Fear without solution involves the simultaneous activation of two motivational systems: attachment and defense (protection from danger through fight-or-flight responses). The abnormal activation of the defense system can lead to the dissolution of the intersubjectivity one (Jackson 1884/1958). This, in turn, leads to a disharmonious activation of other motivational systems and prevents the revision and correction of internal working models, two vital processes for achieving the representational flexibility which characterizes secure attachment and represents a protective factor for the development of psychopathologies (Liotti 1992; Main and Hesse 1992).

Vicarious Use of Other Motivational Systems to Deactivate Attachment

Lyons-Ruth studies (Lyons-Ruth and Jacobvitz 2008) show that 80% of children who had been classified as disorganized during the Strange Situation Procedure (SSP; Ainsworth et al. 1978) later presents a punitive or overly caring attitude towards their caregivers. These attitudes have been called “controlling strategies” because they allow the child to exert some control over the caregiver’s behaviors and attention. According to Liotti (2011), these children may use the ranking-dominance system (controlling-punitive strategy) or the caregiving and the ranking-submission ones (controlling-caregiving strategy) to avoid the unbearable fragmentation of the experience of self-with-other caused by the activation

of disorganized internal working models. Controlling strategies represent a significant risk factor for the development of mental disorders. They can hinder the full development of metacognitive abilities (Lyons-Ruth and Jacobvitz 2008) and their presence is associated with emotional disturbances, behavioral problems, and poor aggression control (Moss et al. 2006). Besides, an intense and enduring activation of the attachment system (for example following a trauma or a loss) could lead to a collapse of such strategies, thus to dissociative manifestations (Liotti 1992, 2006). Controlling strategies seem to represent a bridge between disorganized attachment in childhood and adult psychopathology.

Subjects with a history of disorganized attachment could also vicariously use other motivational systems to deactivate the attachment one. This hypothesis gives us a more thorough understanding of various forms of psychopathology. The vicarious adoption of the sexual system, for example, could promote the development of eroticized strategies that may explain a wide array of perverse behaviors (Erikson 2000; Shane et al. 1997). The use of the ranking-submission and sexuality systems to ensure proximity to a potential attachment figure could be associated with a dependent or borderline personality disorder (Liotti 2004, 2017). The systematic use of the predatory system can explain the development of an antisocial personality disorder, or—if connected to the activation of the sexual system—of some paraphilias with a significant sadistic component (Pancheri and Monticelli 2017). We can also hypothesize that the adoption of the ranking-dominance system may favor the development of narcissistic disorders, that the use of the defense system can be connected to the development of paranoid and schizotypal personality disorders, and that a general failure to activate all motivational systems properly can be related to the development of a schizoid personality disorder.

Theory of Treatment

What said above leads to a theory of treatment that emphasizes the importance of modulating the patient's dysregulated motivational systems through the identification (which occurs primarily within the therapeutic relationship), in-depth knowledge, and correction of those mechanisms that alter their correct functioning and activation and that constitute the foundation of the patient's psychopathology.

Analyzing mothers' narratives through the Adult Attachment Interview (AAI; George et al. 1984), Solomon and George (2011) have shown that, unlike mothers with a secure attachment, those with an insecure attachment show high levels of representational rigidity (i.e., a tendency to activate motivational systems in an unbalanced and disharmonious way) and lower ability to understand their children's needs. Dismissing mothers, for example, are characterized by a

continuously deficient activation of the caregiving system and by the tendency to activate the ranking-dominance one, as shown by their frequent criticism/derogation towards the child during manifestations of his/her distress to discourage further requests for care. Mothers with a history of trauma/unresolved losses show a lack of integration of self-other representations and a deficit in interpersonal coordination, which can lead to difficulties in selecting the most effective motivational system to respond adequately to their child's requests. Both insecure and unresolved mothers are characterized by a deficit in representational flexibility, by a failure to harmonically and flexibly activate behavioral strategies (i.e., motivational systems), and by a lack of interpersonal coordination.

It is likely that these three elements also characterize the patient's narrations within the therapeutic context. Therefore, the therapist will initially have to identify the patient's most dysfunctional aspects, focusing above all on those evident within the therapeutic relationship.

How to Use Motivational Monitoring: Theoretical Framework and Clinical Examples

Representational Flexibility Deficit and Motivational Activation

Our internal working models are continuously updated and revised to ensure that our structures of meaning can have high internal consistency, allowing us to correctly interpret events and predict others' behaviors. If our representations are rigid, we will interpret events (and consequently activate our motivational systems) in a dysfunctional and restricted way—that is, we will create dysfunctional interpersonal schemas. Let us make a clinical example. During the first session, the first thing that the patient asks the therapist, in an annoyed tone, is: “*Why are you always sitting higher than us patients?*”. This statement signals the patient's tendency to represent others as prone to dominate her, which has probably led her to a rigid and abnormal tendency to use the ranking system.

Guidelines for Therapists

Thus, the therapist invites the patient to explore and annotate (self-observations) some short specific episodes—real or imagined, outside the therapeutic relationship or within it—that she finds significant. The focus will be on the relational context in which each specific episode occurs, on the emotional states and somatic sensations that characterize it, on the patient's representations of herself and others, and finally on her behavior. Through these self-observations, we

can identify the emotions connected with the dysregulated and hypertrophic activation of a motivational system. After the patient has acquired the necessary metacognitive skills, the therapist will ask her to recognize and reflect upon the emotional experience of the other person involved in the interaction, as well as upon the mental states of her interlocutor. She will also be encouraged to differentiate the several meanings that the same emotion can assume according to what motivational system regulates it. Anger, for example, can be regulated by several systems: ranking (when competing for a limited resource); caregiving (when it is aimed at protecting someone in need); attachment (when it is expressed to obtain someone's protection); sexuality (if it is aimed to preserve an intimate relationship from an external figure); and cooperation (when it is aimed at reclaiming the other person's focus on teamwork). It is essential to know if the patient is angry with the therapist because she feels abandoned by him (attachment protest), humiliated (ranking system anger), sentimentally rejected (sexual anger), or because she is willing to bring the therapist's attention to a previously agreed pact (cooperative anger).

Different and independent emotional states can also be regulated by a single motivational system. Emotions such as sadness, anger, and fear can be regulated by attachment, if the goal is to achieve someone's protection. However, these same emotions can also follow a defeat in some sort of competition (ranking system). Inviting patients to use self-observation, the therapist encourages them to reflect on their main dysfunctional states. This, in turn, could lead patients to (a) identify dysregulated emotions/motivational systems; (b) recognize the self-other representations involved in their main dysfunctional interpersonal schemas and cycles; (c) learn how to use more flexibly different motivational systems to mitigate their interpersonal difficulties; (d) recognize and process their early adverse interpersonal experiences.

Bowlby's internal working models can be considered as schemas of rather general value, within which subsist different interpersonal schemas (Safran and Segal 1996). Interpersonal schemas do not concern mental states related to attachment alone: they include and reflect the activation of different motivational systems that interact with each other. How we perceive ourselves within a group, for example, reflects the presence of interpersonal patterns that are not attributable only to attachment, but that may also reflect the simultaneous activation of the affiliative, cooperative, and ranking systems. Disorganized internal working models can lead to the development of pathogenic beliefs and dysfunctional interpersonal schemas. Those can be identified and corrected within the therapeutic relationship at various times, particularly during a crisis of the therapeutic alliance (Safran and Muran 2000) and when the patient tests his pathogenic beliefs in the therapeutic relationship (Weiss 1993; Weiss et al. 1986). Understanding dysfunctional

interpersonal schemas will enable us also to predict on what basis the patient will build, threaten, and possibly try to rebuild the therapeutic relationship (Eames and Roth 2000).

Representational Integration, Narrative Coherence, and Motivational Activation

The lack of integration of self-other representations is evident through patients' lack of narrative coherence, reflected by a disharmonious activation of their motivational systems. A patient describes her relationship with a friend as follows: "*Paolo is going to hit on me (sexual system)... poor guy, he's here in Rome all by himself (caregiving system)... but no, maybe he just wants to use me to get to know my friends (ranking-submission system)... what a loser! (ranking-dominance system) We have so much fun together, though (cooperative system)*". Without any self-awareness, this woman shows a substantial incoherence in her narratives, from which it stems a considerable difficulty for her therapist to understand what Paolo represents for her. The patient's narrative inconsistency reflects, on the one hand, the multiple and contradictory representations of herself and the other person (disorganized internal working models) and, on the other hand, the chaotic and disharmonious activation of different emotions and interpersonal schemas that overlap while being mutually exclusive.

Guidelines for Therapists

Clinical interventions will therefore be aimed at the integration of the main representations that make up this chaotic multiplicity and of the patient's emotional and motivational dysregulation, enhancing her awareness of the mechanisms from which it originates.

The patient will be invited to identify every motivational system activated in her speech and differentiate the multiple representations of herself and the other person connected to each system. The therapeutic goal is thus to integrate the patient's multiple representations, in which the other is simultaneously conceived as an exploiter (*he just want to use me to get to know my friends*), as a potential suitor (*he's going to hit on me*), as a weak friend who needs protection (*poor guy, he's all by himself*), as someone who deserves contempt (*what a loser*) and as a fun companion (*we have so much fun together*). The identification of the patient's multiple and chaotic representations goes hand in hand with the process of integrating her emotional and motivational chaos: her anger towards who wants to exploit her and at the same time the pleasure in feeling courted, her tender protection towards a person in need, her contempt and, again, the joy for having someone to share enjoyable moments with. The joint therapeutic effort will then be aimed at reconstructing the main events in the patient's life that created

the conditions for her attachment disorganization and from which her multiple and chaotic representational models originated.

Interpersonal Misattunement and Cooperation

A lack of interpersonal coordination should always be closely monitored, since it can disrupt the therapeutic alliance. During the clinical dialogue, the patient's and therapist's motivational systems should be attuned, creating a cooperative atmosphere (since both actors should be motivated to achieve the same therapeutic goals). However, a subject with an interpersonal coordination deficit (such as the one created by early relational trauma) could have considerable difficulties in this matter. If such difficulties are not promptly recognized by the therapist, they will lead to a persistent lack of cooperation, that is, to a crisis in the therapeutic alliance.

Let us continue with our clinical example. The patient goes on criticizing the therapist: "*Since I lost my job, you seem to pity me as if I were some sort of beggar.*" Once the groundlessness of this claim has been verified together with the patient, the therapist can assume that her feeling of being pitied and her harsh tone signal a hypertrophic activation of the ranking system. This can produce an interpersonal misattunement (cooperative impasse), a risk factor for the stability of the therapeutic alliance. The therapist should then try to restore a good level of cooperation.

Indeed, a study conducted by our group (Monticelli et al. 2018) has shown that when patients are cooperative, they formulate a large number of sentences characterized by a high metacognitive profile (score of 4 or 5 on the Metacognition Assessment Scale; Semerari et al. 2003). During cooperative impasses, patients' metacognitive abilities are impaired. Since the cooperative system seems to be the one most related to a clear improvement of metacognitive abilities (Liotti and Gilbert 2011; Monticelli et al. 2018), an interruption of cooperation is indicative of an impasse of the therapeutic alliance. The latter is characterized by three fundamental elements: goal sharing, task sharing, and emotional bonding based on mutual trust (Bordin 1979). When patients stop cooperating, they disregard a fundamental task (using their metacognitive skills) and goal (improving their metacognitive skills) of every psychotherapy (Carcione et al. 2011). A prolonged lack of cooperation leads de facto to a lack of two of the three elements that make up the therapeutic alliance (Monticelli 2020; Farina et al. 2019).

Thus, it is essential to adopt an approach that may allow us to effectively recognize a lack of cooperation (that is, a crisis in the therapeutic alliance) and respond to it. As some meta-analysis studies have shown, the therapeutic alliance is the most important predictor of psychotherapy outcomes (Horvath et al. 2011; Martin et al. 2000; Norcross

and Wampold 2011). Weak alliances are related to more dropouts (Samstag et al. 2008), while the monitoring of the therapeutic rapport significantly improves psychotherapy effectiveness (Eubanks et al. 2018; Lambert and Shimokawa 2011).

Guidelines for Therapists

In our approach, monitoring moment-by-moment the motivational systems active in the clinical dialogue represents the core element for a good therapeutic intervention. Indeed, motivational monitoring allows to:

1. identify in real-time any lack of cooperation indicative of a crisis in the therapeutic alliance;
2. recognize the main author of those crises;
3. promote an in vivo knowledge of the patient's dysfunctional interpersonal schemas and cycles;
4. differentiate various types of ruptures/impasses;
5. enhance the interpersonal attunement between patient and therapist to establish the most effective motivational asset and find successful ways of repairing ruptures
6. evaluate the therapist's interventions, adopting a "tailoring" attitude

Identifying Impasses/Ruptures in Real-Time Through Motivational Monitoring

In our approach, the therapist is collaborative when he suggests techniques, formulates questions and operational hypotheses on patient's issues, when he is focused on what happens in the here-and-now, and when he formulates appropriate metacommunicative or self-involving interventions. The patient is cooperative when he reports relevant material, when he describes his feelings to the therapist, when he proposes new themes and explanatory hypotheses regarding his difficulties, and when he expands or comments on the therapist's contributions (Monticelli et al. 2018).

Keeping this in mind, motivational monitoring allows to identify alliance crises, focusing our attention on episodes in which (a) the dialogue is empty and conventional, not focused on the therapeutic goals ("shower talk") and indicative of a poor metacognitive effort, or (b) the patient persistently activates a motivational system other than the cooperative one. Clinicians should carefully monitor this kind of activation, since it is indicative of an impasse or rupture, as we have seen. This can happen, for example, when the patient's romantic feelings (sexual system) towards the therapist permanently distract the dyad from the therapeutic goals; when the patient gives voice only to his/her suffering without exploring its reasons or committing to find a resolute strategy (attachment system); when the

patient criticizes the therapist in a specious way (ranking-dominance system); or when he/she is excessively compliant (ranking-submission).

Recognizing the Main Author of Crises in the Therapeutic Alliance

Although the therapeutic alliance and its crises are not entirely attributable to a specific actor, since they emerge from the interaction between therapist and patient, it is possible to identify the misattunement interventions that produce such crises so as to recognize whether they originate from the patient's or therapist's dysfunctional schemas and cycles. In the first case, as we have seen, motivational monitoring allows us to recognize dysfunctional interpersonal schemas and cycles and correct them in real-time. In the second case, the one where it is the therapist who produces misattunement interventions, there is a concrete iatrogenic risk that can lead to a drop-out (Monticelli 2017, 2020). Let us make an example. Unaware of his own discomfort following prolonged silences on behalf of the patient, a therapist starts to dwell on general explanations about psychological functioning. The patient responds with short utterances and stops offering meaningful contributions to dialogue—a signal of a therapeutic impasse. It is possible that the therapist's interventions, marked by an activation of the ranking-dominance system (seeming more competent and capable of offering an explanation for the patient's suffering) and/or of the attachment one (trying to comfort the patient, normalizing his experiences), originate from the therapist's dysfunctional schemas linked to a sense of inadequacy. Such interventions, if prolonged over time, could weaken the therapeutic alliance since they lead to a lack of cooperation—especially if the patient is prone to excessively activate his ranking-submission system. If therapists are not mindful of what schemas and motivational systems could underlie their interventions, moment by moment, they could fail to recognize therapeutic impasses which, in the long run, may compromise the therapeutic outcome.

Promoting an In Vivo Knowledge of the Patient's Dysfunctional Interpersonal Schemas and Cycles

As Safran and Muran (2000) pointed out, impasses or ruptures are vital moments to understand the patient's dysfunctional interpersonal schemas and cycles. These moments indeed offer therapists a chance to explore such schemas and cycles, and they represent an opportunity to facilitate therapeutic change. Often, dysfunctional interpersonal schemas (e.g. “*others will not understand me and will not act for my good*”) are the epiphenomenon of multiple, contradictory and unintegrated self-other representations directly associated with a disorganized attachment (Liotti 2005). Patients'

mindful recognition of their mental representations is a prerequisite for achieving an extremely important therapeutic goal: the integration of such multiplicity into a flexible and cohesive personal synthesis.

Differentiating Various Types of Ruptures/Impasses

Motivational monitoring allows us to go beyond the precious differentiation between withdrawal and confrontation ruptures proposed by Safran and Muran (2000). A confrontation rupture could originate from the anger that a patient feels because he felt neglected by the therapist, insulted by him, or perhaps sentimentally rejected. In the first case, the patient's anger aim is to obtain more emotional intimacy from the therapist (attachment system); in the second case, at having a sort of retaliation (ranking-dominance system); in the latter, at protecting an alleged romantic relationship (sexual system). The patient's anger could also be meant to restore a cooperative asset because he feels that the therapist is not committed fully to their therapeutic collaboration (cooperative system). If the therapist is able to identify what motivational system regulates the patient's anger, he will be able to better identify and tune into the patient's implicit need—and thus to share it with the patient, when and if his metacognitive abilities will allow it.

Enhancing the Interpersonal Attunement Between Patient and Therapist

Once they have recognized a rupture, therapists should initiate an in vivo repairing process “tailoring” their interventions to their patients' specific needs and characteristics. In this way, therapists can significantly improve their interpersonal attunement to every patient.

Nevertheless, attunement does not always coincide with a strong activation of the cooperative system, especially during the early stages of therapy. For example, a patient could refer to us that he has interrupted his previous psychotherapy after just a few months because he did not feel reassured enough by his therapist. The latter was too focused on assuming a cooperative stance and too little assertive: in the representational world of the patient, those elements were a signal of the therapist's scarce ability to fulfill his need of being protected. Instead, they represent an element of poor interpersonal attunement with the patient's needs during that precise phase. Careful motivational monitoring would have allowed the therapist to recognize this crisis and implement a good repairing intervention. Repairing interventions represent a specific instrument to achieve therapeutic change (Forster et al. 2014). As Safran and Muran (2000) point out, change often does not occur through narrative elaboration, but thanks to the immediate and concrete experience of the therapeutic relationship. Moreover, impasses or ruptures

represent the most effective and powerful moments of treatment in increasing patients' metacognitive abilities (Goldfried 1985; Safran and Muran 2000), as reported by patients themselves (Sommerfeld et al. 2008).

However, rather than in the specific intervention employed, the most important factor of reparations lies in the process of enduring the tests of the patient (Safran and Muran 2000). Therapists can attempt to repair alliance ruptures by using direct and indirect modalities. In the case of indirect modalities, the therapist shifts the attention focus to extra-therapeutic contexts characterized by the same dysfunctional interpersonal cycles and schemas evident within the therapeutic relationship. This shift makes the exploration less intimate, but more manageable and more accessible to joint analysis. However, many authors suggest that it is preferable to focus on affective regulation (Bromberg 2006; Greenberg 2007; Schore 2011), thus using direct modalities.

The affective regulation of the therapeutic relationship is facilitated by moment-by-moment motivational monitoring, that gives therapists more control over the emotional dynamics of the therapeutic relationship and favors a direct and spontaneous attitude in the patient, much desirable during these phases (Lambert and Shimokawa 2011). Direct modalities are often characterized by metacommunication interventions (focused on the patient's implicit messages; Kiesler 1988; Safran and Muran 2000). Motivational monitoring facilitates the formulation of these interventions: starting from what happens in the here-and-now of the therapeutic relationship, the therapist can focus on the emotions that arise within the session, for example comparing his mental and emotional states with those of the patient. As argued by Safran and Muran (2000) and Kiesler (1988), before the therapist formulates a metacommunication intervention, he must have full awareness of his own mental states; only in this way he will be able to effectively disengage from the patient's dysfunctional dynamics. Motivational monitoring promotes the identification of mental states and motivational systems active both in the patient and in the therapist during ruptures, and it allows to verify if the therapist is still engaged in the patient's dysfunctional cycles (Eubanks et al. 2018). If the motivational climate is clear—and if repairing interventions are carried out deliberately, after evaluating the consequences they will have on the therapeutic relationship—they can be powerful and effective.

Evaluating Therapist's Interventions

Evaluating the patient's motivational disposition before making an intervention is essential. Indeed, if assuming an interpretative stance can be effective in moments of good cooperation, it can often be useless (or harmful) during an impasse or rupture (Bromberg 2006). Monitoring the consequences of the therapist's interventions is equally important:

if the patient responds accepting and expanding on them (or constructively rejecting them), he is willing to cooperate. In this case, the therapist will be able to continue the joint exploration of the patient's mental and emotional states and to evaluate the degree of diffusion and pathology of his interpersonal patterns. If the patient activates in a stable and prolonged manner another motivational system, signaling the intention not to cooperate, the therapist will have to give up and wait for better moments. For example, the patient may respond with disinterest or criticize the therapist's intervention (*"You're always asking me about my emotions, Doctor, but they're not that important to me"*: ranking-dominance system) or himself (*"I'm afraid I don't understand what you're saying, Doctor, I'm not as smart as you are"*: ranking-submission system). In other instances, he may report feelings of anxiety (*"I feel like I'm going out of breath when we talk about this"*: attachment system), or he may try to seductively conform to what the therapist is saying (*"You are so right...if only twenty years ago I've met you instead of my husband!"*: sexual system). In all these instances, the patient doesn't expand on the therapist's interventions in any way. If such interventions are repeated, it is preferable to abstain from the implementation of a direct strategy. Indeed, if the therapist insists on rigidly maintaining the same attitude without considering the patient's motivational disposition, he risks increasing the interpersonal misattunement further, favoring a drop-out. Piper et al. (1991) and Castonguay et al. (1996)—respectively from a psychoanalytical and cognitive point of view—have highlighted how, when therapists insist on assuming a technical stance, they increase emotional distance and conflict in the therapeutic relationship, thus increasing the chance of a drop-out.

Conclusions

We have presented a theory based on the importance of motivational monitoring. This approach allows us to recognize many elements in real-time, as summarized in the previous sections. Moreover, it is well known that a good therapeutic alliance is a strong predictor of psychotherapy outcome, and that a good therapeutic alliance is strictly associated with interpersonal attunement between patient and therapist. Motivational monitoring could enhance interpersonal attunement in psychotherapy and represent a useful method for tailoring therapy to the specific needs of each patient. The limits of this procedure are mainly related to the need for specific training to correctly use the AIMIT method, indispensable for researchers and optional—but strongly recommended—for clinical practitioners.

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References

- Ainsworth, M., Blehar, M., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. New York: Psychology Press.
- Bleichmar, H. (2008). Psicoterapia psicoanalitica. Verso una tecnica di interventi specifici [Psychoanalytic Psychotherapy. Towards a technique of specific interventions]. Roma: Astrolabio Ubaldini.
- Bordin, E. S. (1979). The generalizability of the psychoanalytic concept of the working alliance. *Psychotherapy: Theory, Research & Practice*, 16(3), 252.
- Bowlby, J. (1969). *Attachment and loss* (Attachment) (Vol. 1). New York: Basic Books.
- Bromberg, P. M. (2006). *Awakening the dreamer: Clinical journeys*. New York: Analytic Press.
- Carcione, A., Nicolò, G., Pedone, R., Popolo, R., Conti, L., Fiore, D., et al. (2011). Metacognitive mastery dysfunctions in personality disorder psychotherapy. *Psychiatry Research*, 190(1), 60–71. <https://doi.org/10.1016/j.psychres.2010.12.032>.
- Cassidy, J., & Mohr, J. J. (2001). Unsolvable fear, trauma, and psychopathology: Theory, research, and clinical considerations related to disorganized attachment across the life span. *Clinical Psychology: Science and Practice*, 8(3), 275–298. <https://doi.org/10.1093/clipsy.8.3.275>.
- Castonguay, L. G., Goldfried, M. R., Wiser, S., Raue, P. J., & Hayes, A. M. (1996). Predicting the effect of cognitive therapy for depression: A study of unique and common factors. *Journal of Consulting and Clinical Psychology*, 64(3), 497. <https://doi.org/10.1037/0022-006X.64.3.497>.
- Cloitre, M., Stovall-McClough, C., Zorbas, P., & Charuvastra, A. (2008). Attachment organization, emotion regulation, and expectations of support in a clinical sample of women with childhood abuse histories. *Journal of Traumatic Stress*, 21(3), 282–289. <https://doi.org/10.1002/jts.20339>.
- Cortina, M. (2017). Adaptive flexibility, cooperation, and prosocial motivations: The emotional foundations of becoming human. *Psychoanalytic Inquiry*, 37(7), 436–454.
- Cortina, M., & Liotti, G. (2014). An evolutionary outlook on motivation: Implications for the clinical dialogue. *Psychoanalytic Inquiry*, 34(8), 864–899. <https://doi.org/10.1080/07351690.2014.968060>.
- Dimaggio, G., Semerari, A., Carcione, A., Procacci, M., & Nicolo, G. (2006). Toward a model of self-pathology underlying personality disorders: Narratives, metacognition, interpersonal cycles and decision-making processes. *Journal of Personality Disorders*, 20(6), 597–617. <https://doi.org/10.1521/pedi.2006.20.6.597>.
- Eames, V., & Roth, A. (2000). Patient attachment orientation and the early working alliance—a study of patient and therapist reports of alliance quality and ruptures. *Psychotherapy Research*, 10(4), 421–434. <https://doi.org/10.1093/ptr/10.4.421>.
- Erikson, M. T. (2000). The evolution of incest avoidance: Oedipus and the psychopathology of kinship. In P. Gilbert & K. Bailey (Eds.), *Genes on the couch: Explorations in evolutionary psychotherapy* (pp. 211–231). London: Brunner-Routledge.
- Eubanks, C. F., Muran, J. C., & Safran, J. D. (2018). Alliance rupture repair: A meta-analysis. *Psychotherapy*, 55(4), 508.
- Farina, B., Onofri, A., Monticelli, F., Cotugno, A., Talia, A., & Liotti, M. (2019). Giovanni Liotti (1945–2018): The Pied Noir of research in attachment and psychotherapy. *Attachment & Human Development*, 1–10. <https://doi.org/10.1080/14616734.2019.1640258>.
- Fassone, G., Valcella, F., Pallini, S., Scarcella, F., Tombolini, L., Ivaldi, A., et al. (2012). Assessment of Interpersonal Motivation in Transcripts (AIMIT): An inter-and intra-rater reliability study of a new method of detection of interpersonal motivational systems in psychotherapy. *Clinical Psychology & Psychotherapy*, 19(3), 224–234. <https://doi.org/10.1002/cpp.742>.
- Fassone, G., Lo Reto, F., Foggetti, P., Santomassimo, C., D'Onofrio, M. R., Ivaldi, A., et al. (2016). A content validity study of AIMIT (Assessing Interpersonal Motivation in Transcripts). *Clinical Psychology & Psychotherapy*, 23(4), 319–328. <https://doi.org/10.1002/cpp.1960>.
- Fonagy, P. (2003). Clinical implications of attachment and mentalization: Efforts to preserve the mind in contemporary treatment. Epilogue. *Bulletin of the Menninger Clinic*, 67(3), 271–280. <https://doi.org/10.1521/bumc.67.3.271.23438>.
- Forster, C., Berthollier, N., & Rawlinson, D. (2014). A systematic review of potential mechanisms of change in psychotherapeutic interventions for personality disorder. *Journal of Psychology & Psychotherapy*, 4(133), 2161–0487. <https://doi.org/10.4172/2161-0487.1000133>.
- George, C., & Solomon, C. (2008). Attachment and caregiving: The caregiving behavioral system. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment*. New York: Guilford Press.
- George, C., & Solomon, J. (2011). The disorganized attachment-caregiving system: Dysregulation of adaptive processes at multiple levels. In Solomon, J., & George, C. (Eds.), *Disorganized attachment and caregiving* (pp. 133–166). New York: Guilford Press.
- George, C., Kaplan, N., & Main, M. (1984). Adult attachment interview. Unpublished manuscript, University of California, Berkeley.
- Gilbert, P. (1989/2016). *Human nature and suffering*. London: Routledge.
- Gilbert, P. (1997). The evolution of social attractiveness and its role in shame, humiliation, guilt and therapy. *British Journal of Medical Psychology*, 70(2), 113–147.
- Gilbert, P. (2000). Social mentalities: Internal ‘social’ conflicts and the role of inner warmth and compassion in cognitive therapy. In P. Gilbert & K. G. Bailey (Eds.), *Genes on the couch: Explorations in evolutionary psychotherapy* (pp. 118–150). London: Brunner-Routledge.
- Gilbert, P. (2005). Social mentalities: A biopsychosocial and evolutionary reflection on social relationships. In M. Baldwin (Ed.), *Interpersonal cognition* (pp. 299–333). New York: Guilford.
- Goldfried, M. R. (1985). In vivo intervention or transference. In W. Dryden (Ed.), *Therapists' dilemmas*. London: Harper & Row.
- Greenberg, L. S. (2007). Emotion coming of age. *Clinical Psychology: Science and Practice*, 14(4), 414–421. <https://doi.org/10.1111/j.1468-2850.2007.00101.x>.
- Hatfield, E., Cacioppo, J. T., & Rapson, R. L. (1994). *Emotional contagion*. Cambridge: Cambridge University Press.
- Hesse, E., & Main, M. (2000). Disorganized infant, child, and adult attachment: Collapse in behavioral and attentional strategies. *Journal of the American Psychoanalytic Association*, 48(4), 1097–1127. <https://doi.org/10.1177/00030651000480041101>.

- Hilburn-Cobb, C. (2004). Adolescent psychopathology in terms of multiple behavioral systems: The role of attachment and controlling strategies and frankly disorganized behavior. In L. Atkinson & S. Goldberg (Eds.), *Attachment issues in psychopathology and intervention* (pp. 95–135). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.
- Horvath, A. O., Del Re, A. C., Flückiger, C., & Symonds, D. (2011). Alliance in individual psychotherapy. *Psychotherapy, 48*(1), 9.
- Hrdy, S. (2009). *Mothers and others: The evolutionary origins of mutual understanding*. Cambridge, MA: Belknap/Harvard.
- Jackson, J. H. (1884/1958). Evolution and dissolution of the nervous system. In J. Taylor (Ed.), *Selected writings of John Hughlings Jackson* (Vol. 2). New York: Basic Books.
- Kiesler, D. J. (1988). *Therapeutic metacommunication: Therapist impact disclosure as feedback in psychotherapy*. Palo Alto, CA: Consulting Psychologists Press.
- Kim, S., Thibodeau, R., & Jorgensen, R. S. (2011). Shame, guilt, and depressive symptoms: A meta-analytic review. *Psychological Bulletin, 137*(1), 68.
- Lambert, M. J., & Shimokawa, K. (2011). Collecting client feedback. *Psychotherapy, 48*(1), 72. <https://doi.org/10.1037/a0022238>.
- Lichtenberg, J. D., Lachmann, F. M., & Fosshage, J. L. (2011). *Psychoanalysis and motivational systems: A new look*. London: Routledge.
- Liotti, G. (1992). Disorganized/disoriented attachment in the etiology of the dissociative disorders. *Dissociation, 5*(4), 196–204.
- Liotti, G. (1994/2005). *La dimensione interpersonale della coscienza*. Milano: Raffaello Cortina.
- Liotti, G. (2004). Trauma, dissociation, and disorganized attachment: Three strands of a single braid. *Psychotherapy: Theory, Research, Practice, Training, 41*(4), 472. <https://doi.org/10.1037/0033-3204.41.4.472>.
- Liotti, G. (2006). A model of dissociation based on attachment theory and research. *Journal of Trauma & Dissociation, 7*(4), 55–73. https://doi.org/10.1300/J229v07n04_04.
- Liotti, G. (2011). Attachment disorganization and the controlling strategies: An illustration of the contributions of attachment theory to developmental psychopathology and to psychotherapy integration. *Journal of Psychotherapy Integration, 21*(3), 232. <https://doi.org/10.1037/a0025422>.
- Liotti, G. (2017). The multimotivational approach to attachment-informed psychotherapy: A clinical illustration. *Psychoanalytic Inquiry, 37*(5), 319–331. <https://doi.org/10.1080/07351690.2017.1322426>.
- Liotti, G., & Gilbert, P. (2011). Mentalizing, motivation, and social mentalities: Theoretical considerations and implications for psychotherapy. *Psychology and Psychotherapy: Theory, Research and Practice, 84*(1), 9–25. <https://doi.org/10.1348/147608310X520094>.
- Liotti, G., & Liotti, M. (2019). Reflections on some contributions to contemporary psychotraumatology in the light of Janet's critique of Freud's theories. In G. Craparo, F. Ortu, & O. van der Hart (Eds.), *Rediscovering Pierre Janet* (pp. 95–105). New York: Routledge.
- Liotti, G., & Monticelli, F. (Eds.). (2008). *I sistemi motivazionali nel dialogo clinico [Motivational systems in clinical dialogue]*. Milano: Raffaello Cortina.
- Liotti, G., & Monticelli, F. (2014). *Teoria e clinica dell'alleanza terapeutica. Una prospettiva cognitivo-evolutionista [Therapeutic alliance: Theory and practice. A cognitive-evolutionary perspective]*. Milano: Raffaello Cortina.
- Lyons-Ruth, K., & Jacobvitz, D. (2008). Attachment disorganization: Genetic factors, parenting contexts, and developmental transformation from infancy to adulthood. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications*. London: Rough Guides.
- Maccoby, M. (1988). *Why Work. Leading the New generation*. New York: Simon and Schuster.
- MacLean, P. D. (1990). *The triune brain in evolution*. New York: Plenum.
- Main, M., & Hesse, E. (1992). Disorganized/disoriented infant behavior in the strange situation, lapses in the monitoring of reasoning and discourse during the parents' Adult Attachment Interview, and dissociative states: In support of Liotti's hypothesis. Translated into Italian by V. Chiarini and published in M. Ammaniti & D. Stern (Eds.), *Attaccamento e psicoanalisi (Attachment and psychoanalysis)* (pp. 86–140). Bari: Laterza.
- Martin, D. J., Garske, J. P., & Davis, M. K. (2000). Relation of the therapeutic alliance with outcome and other variables: A meta-analytic review. *Journal of Consulting and Clinical Psychology, 68*(3), 438. <https://doi.org/10.1037/0022-006X.68.3.438>.
- Monticelli, F. (2017). L'alleanza terapeutica e la teoria evoluzionistica della motivazione. [Therapeutic alliance and evolutionary theory of motivation]. In G. Liotti, G. Fassone, & F. Monticelli (Eds.), *L'Evoluzione delle Emozioni e dei Sistemi Motivazionali: Teoria, Ricerca, Clinica*. Milano: Raffaello Cortina Editore.
- Monticelli, F. (2020). Case formulation and the therapeutic relationship from an evolutionary theory of motivation. Commentary to chapter 15. In G. M. Ruggiero, G. Caselli, & S. Sassaroli (Eds.), *Case formulation as therapeutic tool in cognitive behavioral therapy (Chapter 20)*. Cham (CH): Springer.
- Monticelli, F., Imperatori, C., Carcione, A., Pedone, R., & Farina, B. (2018). Cooperation in psychotherapy increases metacognitive abilities: A single-case study. *Rivista di Psichiatria, 53*(6), 336–340. <https://doi.org/10.1708/3084.30768>.
- Moss, E., Smolla, N., Cyr, C., Dubois-Comtois, K., Mazzarello, T., & Berthiaume, C. (2006). Attachment and behavior problems in middle childhood as reported by adult and child informants. *Development and Psychopathology, 18*(2), 425–444. <https://doi.org/10.1017/S0954579406060238>.
- Norcross, J. C., & Wampold, B. E. (2011). Evidence-based therapy relationships: Research conclusions and clinical practices. *Psychotherapy, 48*(1), 98. <https://doi.org/10.1037/a0022161>.
- Ogawa, J. R., Sroufe, L. A., Weinfield, N. S., Carlson, E. A., & Egeland, B. (1997). Development and the fragmented self: Longitudinal study of dissociative symptomatology in a nonclinical sample. *Development and Psychopathology, 9*(4), 855–879. <https://doi.org/10.1017/S0954579497001478>.
- Pancheri, L., & Monticelli, F. (2017). Le perversioni sessuali tra psicoanalisi e teoria evoluzionistica della motivazione. [Sexual perversions between psychoanalysis and the evolutionary theory of motivation]. In G. Liotti, G. Fassone, & F. Monticelli (Eds.), *L'Evoluzione delle Emozioni e dei Sistemi Motivazionali: Teoria, Ricerca, Clinica*. Milano: Raffaello Cortina Editore.
- Panksepp, J. (2004). *Affective neuroscience: The foundations of human and animal emotions*. Oxford: Oxford University Press.
- Piper, W. E., Azim, H. F., Joyce, A. S., McCallum, M. A. R. Y., Nixon, G. W., & Segal, P. S. (1991). Quality of object relations versus interpersonal functioning as predictors of therapeutic alliance and psychotherapy outcome. *Journal of Nervous and Mental Disease, 179*(7), 432–438. <https://doi.org/10.1097/00005053-199107000-00008>.
- Price, J. (1967). The dominance hierarchy and the evolution of mental illness. *The Lancet, 290*(7509), 243–246.
- Safran, J. D., & Muran, J. C. (2000). *Negotiating the therapeutic alliance: A relational treatment guide*. New York: Guilford Press.
- Safran, J. D., & Segal, Z. V. (1990). *Interpersonal process in cognitive therapy*. Lanham, MD: Jason Aronson.
- Safran, J., & Segal, Z. V. (1996). *Interpersonal process in cognitive therapy*. Northvale, NJ: Jason Aronson.

- Safran, J. D., Muran, J. C., & Eubanks-Carter, C. (2011). Repairing alliance ruptures. *Psychotherapy, 48*(1), 80. <https://doi.org/10.1037/a0022140>.
- Samstag, L. W., Muran, J. C., Wachtel, P. L., Slade, A., Safran, J. D., & Winston, A. (2008). Evaluating negative process: A comparison of working alliance, interpersonal behaviour, and narrative coherency among three psychotherapy outcome conditions. *American Journal of Psychotherapy, 62*(2), 165–194.
- Schore, A. N. (2003). *Affect dysregulation and disorders of the self* (Norton series on interpersonal neurobiology). New York: WW Norton & Company.
- Schore, A. N. (2011). The right brain implicit self lies at the core of psychoanalysis. *Psychoanalytic Dialogues, 21*(1), 75–100. <https://doi.org/10.1080/10481885.2011.545329>.
- Semerari, A., Carcione, A., Dimaggio, G., Falcone, M., Nicolò, G., Procacci, M., & Alleva, G. (2003). How to evaluate metacognitive functioning in psychotherapy? The metacognition assessment scale and its applications. *Clinical Psychology & Psychotherapy, 10*(4), 238–261. <https://doi.org/10.1002/cpp.362>.
- Semerari, A., Carcione, A., Dimaggio, G., Nicolò, G., & Procacci, M. (2007). Understanding minds: Different functions and different disorders? The contribution of psychotherapy research. *Psychotherapy Research, 17*(1), 106–119. <https://doi.org/10.1080/10503300500536953>.
- Senn, M. J. E. (1977). Unpublished transcript of an interview with Dr. John Bowlby in London. Unpublished (Archives Tavistock Joint Library).
- Shane, M., Shane, E., & Gales, M. (1997). *Intimate attachments: Toward a new self psychology*. New York: Guilford Press.
- Slade, A. (2008). The implications of attachment theory and research for adult psychotherapy: Research and clinical perspectives. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 762–782). New York: Guilford Press.
- Sloman, L., & Taylor, P. (2016). Impact of child maltreatment on attachment and social rank systems: Introducing an integrated theory. *Trauma, Violence, & Abuse, 17*(2), 172–185. <https://doi.org/10.1177/1524838015584354>.
- Solomon, J., & George, C. (2011). Disorganization of maternal caregiving across two generations: The origins of caregiving helplessness. In J. Solomon & C. George (Eds.), *Disorganized attachment and caregiving* (pp. 25–51). New York: Guilford Press.
- Sommerfeld, E., Orbach, I., Zim, S., & Mikulincer, M. (2008). An in-session exploration of ruptures in working alliance and their associations with clients' core conflictual relationship themes, alliance-related discourse, and client' postsession evaluation. *Psychotherapy Research, 18*, 377–388. <https://doi.org/10.1080/10503300701675873>.
- Tomasello, M. (2009). *Why we cooperate*. Boston, MA: MIT Press.
- Tomkins, S. S. (1962). *Affect imagery consciousness* (The positive affects) (Vol. I). New York: Springer.
- Tomkins, S. S. (1963). *Affect imagery consciousness* (The negative affects) (Vol. II). New York: Springer.
- Tomkins, S. S. (1991). *Affect imagery consciousness* (The negative affects: Anger and fear) (Vol. III). New York: Springer.
- Weiss, J. (1993). *How psychotherapy works*. New York: Guilford Press.
- Weiss, J., Sampson, H., & The Mount Zion Psychotherapy Research Group. (1986). *The psychoanalytic process: Theory, clinical observation, and empirical research*. New York: Guilford.
- Wiechelt, S. A. (2007). The specter of shame in substance misuse. *Substance Use & Misuse, 42*(2–3), 399–409.
- Wiltshire, T. J., Philipsen, J. S., Trasmundi, S. B., Jensen, T. W., & Steffensen, S. V. (2020). Interpersonal coordination dynamics in psychotherapy: A systematic review. *Cognitive Therapy and Research, 44*(4), 752–773. <https://doi.org/10.1007/s10608-020-10106-3>.

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