

***Intersubjectivity research and theory:
Contributions to the domains of Developmental Psychopathology and
early intervention***

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Abstract

The theory of Innate Intersubjectivity (Trevarthen, 1974, 1979; Trevarthen and Hubley, 1978), built upon results of observational studies on infant communicative abilities manifested during face-to-face interactions with sensitive others, recognized the human infant as a person motivated to communicate with other people and well-armed to do so from birth. Based on the theory of Innate Intersubjectivity, more recent researchers studied infant intentionality, mimesis, empathy, self-awareness, revitalizing in that way the field of infant psychology and renewing the interest in the development of the first years of life. All this new knowledge on infant socio-emotional and cognitive development boosted the advancement of other fields of research such as Developmental Psychopathology and Prevention and Early Intervention for infant mental health and developmental disorders. It was paramount to have robust evidence that human infants are active partners in dyadic relationships from birth, since this knowledge informed not only the role attributed to infants and toddlers in research methodologies, but also re-directed the focus of prevention and early intervention programs towards a more ecological approach in which infants and toddlers are seen as active agents in their environment. Video Interaction Guidance, which promotes sensitive communication and empathy, is an example of such programs. Further advances in the field of infant Psychology and Psychopathology may be expected by bridging behavioral sciences and neurosciences' research methodologies – this may be the only way to shed more light to human social brain.

Keywords: VIG, early intervention, Developmental Psychology, theory of Innate Intersubjectivity.

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Introduction

Infancy research has been strongly influenced by the ethological tradition of meticulous observation of behavior through frame-to-frame analysis of video. Especially, the field of early human socio-emotional development has been benefited significantly by the empirical microanalysis of infant behavior in the context of early relationships with sensitive and Significant Others.

It seems that the turning point for applying such methodologies to research on early human communication and, particularly, mother-infant face-to-face communication, was around 1970. The establishment of this new field of research started with the pioneering work of Mary Catherine Bateson, Margaret Bullowa, Berry Brazelton, Hanuš and Mechtilde Papoušek, Daniel Stern -- and Colwyn Trevarthen, who began his research with Martin Richards and Berry Brazelton in Jerome Bruner's laboratory in the Center for Cognitive Studies at Harvard University in 1967.

Trevarthen presented the theory of Innate Intersubjectivity nearly 40 years ago (Trevarthen, 1974, 1979; Trevarthen and Hubley, 1978) and Developmental Psychology is already very different to what it was in the early 1970s. The systematic and meticulous observations of early communicative abilities of infants manifested during face-to-face interactions with sensitive others were transforming the picture of the infant of classical psychological theorists such as Freud and Piaget.

Trevarthen, among other pioneers and more recent researchers, with lots of curiosity, enthusiasm for, and devotion to the observed phenomena built a new a more recognizable, familiar picture of the human infant: a person motivated to communicate with other people and well-adapted to do so from birth. His theoretical and empirical approach to early human development continues to develop and, in 1997, in

collaboration with Aitken (Aitken and Trevarthen, 1997; Trevarthen and Aitken, 2001), Innate Intersubjectivity has been discussed in relation to the hypothesis of an Innate Motive Formation (IMF) “that emerges in brain development as regulator of morphogenesis in neural systems, and that continues to function, postnatally, as generator of motives and emotions by which human contacts and relationships are regulated”. The description of the IMF and its discussion in relation to intersubjectivity renewed Trevarthen’s long-lasting relationship with neurosciences and the study of the neural substrates of infant communicative abilities as we know them today.

The theory of Innate Intersubjectivity attracted the attention of many researchers during 70s, 80s and 90s. Thus, today, there is robust evidence that infants demonstrate well-organized patterns of communicative behavior from the very beginning (e.g. Kugiumutzakis, 1985, 1998; Kokkinaki, 1998; Kokkinaki and Kugiumutzakis, 2000; Semitekolou, 2005; Mazokopaki and Kugiumutzakis, 2008), which are intentional in nature (Reddy, 1991), expressive of the infant’s own emotions and attentions and influenced by the emotions, intentions and attentions of their communicative partners. Moreover, infants seem to be capable of a non-reflective form of sympathy¹⁰ even as early as their second month of life (Hatzinikolaou, 2002; Hatzinikolaou and Murray, 2010).

¹⁰ The word “empathy” derives from the Greek *empathia*, which, in modern Greek has moved away from the ancient Greek meaning of something like sympathy, to come to mean an egocentric, one-sided, “projection” of a judgment of feeling toward an object. The word was imported to English, with a new meaning, by Titchner, as a translation of the German word “Einfühlung”, the psychological putting of feeling or imagined quality or form into an object, perhaps a landscape or a painting. “Empathy”, mis-translated in this way, has since assumed many complex meanings in social psychology and philosophy of mind (Text written by Vasudevi Reddy after conversation on both terms with the author in October 2015).

**Theory and research on Intersubjectivity promote the bridging between
Developmental Psychology and Developmental Psychopathology**

All this new knowledge of the infants' early communicative abilities was gradually appealing to more and more researchers, and infancy became once again an exciting field of research to work upon. Lynne Murray was one of the first researchers who, based on the theory of Innate Intersubjectivity, investigated systematically the early communicative patterns of infant behavior in a risk group that of infants of postnatally depressed mothers (Murray, 1992; Murray et al., 1993; Murray et al., 1996; Murray and Cooper, 1997; Murray et al., 2011). For example, Murray and her colleagues (Murray, et. al., 1993; Murray, et. al., 1996) showed that expressions of positive emotional experience on the part of the infant are followed by maternal affirmation of the positive infant experience in both depressed and well dyads. However, only the depressed mothers negate infant expressions of negative experience. Maternal negation, that is discordant and unsympathetic responses to infant expressions of negative experience, disrupts infant experience, leading in that way to infant avoidance and withdrawal. Furthermore, infant expressions of negative experience are themselves preceded by maternal negations. Thus, it was concluded, first, that depressed mothers appeared to be more sensitive to infant expressions of negative affect than well mothers, while the experience of depressed dyads is principally characterized by "cycles of mutually responsive negativity" (Murray, 1998), which result in disruptions of infant experience.

Similarly, and more or less at the same time, Tiffany Field and her colleagues started examining the same vulnerable group in the U.S. (Field, 1984, 1995; Field et al., 1988). Most importantly, Field and her colleagues (1988) demonstrated that the adverse effects of maternal postnatal depression on infant's early socio-emotional development are not specific to the depressed mother-infant interactions; on the contrary, infants of

depressed mothers sustain a depressed-like behavior (e.g. less positive affect, lower activity level) while interacting with a non-depressed female stranger, the latter coming to exhibit depressive interactive characteristics only during her interaction with infants of depressed, and not of well, mothers. Such a finding indicates how pervasive the effect of sharing intersubjective spaces with a postnatally depressed mother may be. The infant presents such depressed-like behavior, so similar to her mother, possibly because this is what she has been sharing with her mother since her birth. Furthermore, as the mother is usually the most Significant Other, the infant may be especially motivated to attune emotions, intentions and behaviors to her depressed mother's emotions, intentions and behaviors.

In addition, there is evidence that the sharing of intersubjective spaces with a postnatally depressed mother affects functions of the developing brain. For example, Field and her research group found that the brain activation of 3-month-old infants of depressed mothers exhibits reduced left frontal activation (e.g. Aaron-Jones et al., 1997), a pattern found in adults suffering from depression (Henrigues and Davidson, 1990) which is associated with experiencing negative affect (Jones, Field and Davalos, 2000). Moreover, this brain activation pattern in infants of depressed mothers has shown considerable consistency through the first (Field et al., 1995) and second year of life (Dawson et al., 1997; Dawson et al., 1999).

The nature of affective engagements with infants and their effects in development

Attempts have been made towards a better understanding of the factors and the mechanisms that may explain the passage from typical to atypical development due to disruptions in early intersubjective experience. For example, Hatzinikolaou (2002) found that the sympathetic involvement of infants of postnatally depressed mothers

differed from that of infants of well mothers. Girl-infants of postnatally depressed mothers seemed to get more sympathetically involved with their mother during face-to-face interactions, than boys of postnatally depressed mothers and infants of well mothers. Moreover, boy-infants of postnatally depressed mothers appeared to get less sympathetically involved with their mother than all other infants. These findings relate to those from older children of depressed mothers. For example, similar findings were found for 5 to 6-year-old children (Zahn-Waxler et al., 1990). Increased levels of guilt and sympathetic involvement with others' negative affect may predispose those children to a state vulnerability for mood disorders, such as depression and anxiety.

Another example of how research on infant communicative abilities has advanced knowledge on early onset developmental disorders is the contribution of joint attention research to the understanding of autism. Joint attention to an external object is an ability demonstrated well before the end of the first year and indicates infant's awareness of, and interest in, others' attentions (e.g. Reddy, 2005). In autism, joint attention presents an atypical development (e.g. Dawson et al., 2004). Measures of joint attention developed for the purposes of understanding early communicative abilities, early attention awareness and the development of self-awareness in typical development, have also been used to assess self- and other-awareness in autism (Mundy, Gwaltney and Henderson, 2010).

The theory of Innate Intersubjectivity provided the theoretical context for the aforementioned and many more studies which investigated early typical and atypical development of communication, by considering that both actors, the infant and the caregiver, played active roles. Such studies introduced "a communicative infant", who would be capable to "speak" for herself and, thus, allow further explorations in Developmental Psychopathology and its clinical applications. Infants were, now,

recognized as persons with their own preferences, intentions, and emotions and with the ability to perceive the emotions and the intentions of their communication partners and respond to them in appropriate ways. In other words, the “communicative infant” came to promote a more solid bridge between Developmental Psychology and Developmental Psychopathology.

Applications for identification and treatment of Affective Disorders

Developmental Psychopathology emerged in the mid-1970s (Sameroff, 1975; Sameroff and Chandler, 1975) and was established as a distinct research field during 1980s. It is the “study of the origins and course of individual patterns of behavioral maladaptation” (Sroufe and Rutter, 1984, p.14). This new domain had to manage a series of challenging issues, such as: defining the expression of psychopathology in children; the appropriateness of the existing mental health criteria for infants, toddlers and children; the creation of new intervention programs and the assessment of the effectiveness of established interventions with such early ages; the investigation of systems responsible for atypical development, among others. These fundamental questions could be better tested, both in theory and research, by making use of the knowledge on infant and toddler behavior that Developmental Psychology had gathered since 1970s. Also, based on new theories, including the theory of Innate Intersubjectivity, and on research data showing that infants and toddlers are active agents able to influence their own and others’ experience in the world, Developmental Psychopathology could more easily make reference to and study caregiver-infant psychotherapy models, early intervention and prevention models, and the manifestation of mental health disorders in infancy and early childhood.

Many of these themes were taboo for traditional Psychology. Infants were conventionally seen as deprived of elevated cognitive skills and for this reason could not be included in therapeutic interventions which required them. If infants are not capable of perceiving and experiencing others' emotions, as it was traditionally thought, how they could be included in bidirectional models attempting to explain child psychopathology? Thus the recognition of the infant and young child as a person with her own rights, hopes and intentions provided Developmental Psychopathology with a more extended and fruitful field for study. Moreover, the theoretical advances in the field of Developmental Psychopathology, such as the transactional model for understanding the process (Sameroff and Chandler, 1975), were in agreement with theories of Developmental Psychology that supported the bidirectional model for explaining the construction of experience and the promotion of human development, such as the theory of Innate Intersubjectivity. It may also be worthy to mention that infancy research allowed the meeting of both fields, Developmental Psychology and Developmental Psychopathology, with the battle for human rights in society, and, particularly, with the movement of children's rights, which had long supported the belief that the human infant is a person with intentions and volition, and therefore with basic human rights which should be recognized and protected.

**Research on Infant Intersubjectivity resulted in more evidence-based early
intervention programs for infants and toddlers**

The developments in the domain of Developmental Psychopathology attracted the attention of clinical psychologists, who worked on new interventions and carried out research including young children in clinical trials. In consequence, more taxonomic categories referring to young children were included in the Diagnostic and Statistical

Manual of Mental Disorders (APA, 2013) and in the ICD-10 Classification of Mental and Behavioral Disorders (WHO, 1992). In 1994, the Diagnostic Classification of Mental Health and Developmental Disorders of Infancy and Early Childhood-Revised (DC: 0-3R) was published by the American organization Zero to Three (Zero to Three, 1994). This is a developmentally based diagnostic manual that provides clinical criteria for mental health and developmental disorders that may be initially manifested in infancy and toddlerhood.

This multiplying evidence on infant and toddler mental health provided to the clinicians the tools to identify more infants and toddlers with developmental difficulties, and health and social services attempted to respond to the increasing demand in infant and toddler mental health services. However, it was quickly understood that prevention and early intervention cost less, than treating the actual mental health problem after it has established itself (Allen, 2011; American Academy of Child and Adolescent Psychiatry, 2011). The establishment and the development of the domain of Early Intervention in infant mental health were largely based on infancy research carried out from 1970s onwards, as well as on research carried out in the context of Developmental Psychopathology itself. Without the developments in both fields that pointed towards the bidirectional construction of human experience since birth planning and delivering appropriate and effective services could not take place. If infants were still considered as creatures driven by instincts, unable to communicate with the external world, ‘lost in their fantasies’, as traditional Psychology theories had presumed, how could we involve them in early intervention programs, which treat infants as active agents in restructuring their experience with others and with their environment in order to achieve a more functional and happy everyday life? Or, how could appropriate services be offered to those populations that mostly need it, if no research on risk and protective factors, on

the peculiarities of families with mental health problems, on resilience, and on the duration of the effects of specific interventions, among others, had included infants and toddlers in research samples?

The theory of Innate Intersubjectivity translated into prevention and intervention programs: The case of Video Interaction Guidance

Although Early Intervention still strives to establish itself as a Public Health Issue, many prevention and early intervention programs have already been proven effective in limiting potential risk factors for psychopathology, and in enhancing the supportive function of protective factors decreasing the probability of the manifestation of infant and toddler mental health disorders. Some examples of such programs are the Triple P-Positive Parenting Program (e.g. Thomas and Zimmer-Gembeck, 2007), The Incredible Years Parenting Programs (e.g. Webster-Stratton, Reid and Stoolmiller, 2008; Menting, de Castro and Matthys, 2013), Parent-Child Interaction Therapy (e.g. Thomas and Zimmer-Gembeck, 2011), and Video Interaction Guidance (VIG) (Kennedy, Landor and Todd, 2011).

VIG is a method which promotes sensitive and attuned interactions and is intrinsically linked to Trevarthen's theory of Innate Intersubjectivity and Mediated Learning. The model was developed by Harrie Biemans and his colleagues in The Netherlands during 1980s (Biemans, 1990). As an empowerment method, VIG promotes sensitive and attuned interactions by supporting clients to identify and recognize their communicative strengths. The working definition of the concept of "communicative strengths", so central to VIG's theory and practice, was based on infancy research and, particularly, on those principles which have been found to promote successful intersubjective communication between mothers and their very

young infants. The identification and recognition of such communicative strengths empowers and motivates clients not only to further develop these strengths, but also to make good use of them in order to support less successful communicative moments and to re-establish intersubjectivity when the latter has been interrupted by communicative failures.

The principles that Trevarthen's Theory of Innate Intersubjectivity and Mediated Learning have pointed out as paramount for the promotion of sensitive communications, are central to Video Interaction Guidance's theory and practice. In the VIG context these are known as the "Principles of Attuned Interactions and Guidance" and they can be summarized as follows: 1) Being attentive, 2) Encouraging initiatives, 3) Receiving initiatives, 4) Developing attuned interactions, 5) Guiding, and 6) Deepening discussion. 'Being attentive' refers to the skill of deliberately paying attention to what the other is doing, thinking and feeling and the skill to communicate this interest to the other through friendly postures, with provision of space and time to the other to express herself. A milestone of a sensitive and meaningful communication is the 'encouraging of other's initiatives', which may be promoted through active listening and warm tone of voice, and identifying and naming the initiatives of the other. Similarly important is the 'receiving of the other's initiatives', which is communicated through confirming body movements and short verbal affirmations, returning eye-contact and nodding, or sometimes by repeating what the other has just said. These three principles provide the basis for the fourth principle, the 'development of attuned interactions'. An attuned interaction is characterized by receiving and responding appropriately to the other's communicative messages, by waiting for your turn, by giving and taking short turns, by collaborating, and of course having fun together. When an attuned interaction has been built, 'guiding' may be the next step. By guiding, what is meant is the scaffolding and,

thus, the extending of the other's experience and understanding, the provision of adequate help and the offer of tangible choices. Finally, an attuned interaction creates the appropriate intersubjective space for the 'deepening of the conversation', the exploration of new meanings, the collaborative problem-solving, the naming of disagreements and the managing of conflicts.

Colwyn Trevarthen has been personally involved in the development of Video Interaction Guidance, since the time that VIG was brought from the Netherlands to Scotland in the beginning of 90s. Trevarthen has admitted that "*the interesting thing about Video Interaction Guidance is the shared discovery of creative or constructive communication in relationships that are in trouble*" (Sound Cloud: User3720942, 2013), and that in the context of VIG, both trainers and clients "*only really join attention to things that have made a contribution towards better relationships. I think that's an excellent principle; a principle that video interaction guidance can teach to any kind of therapy.*" (Sound Cloud: User3720942, 2013).

In order to achieve its aims, VIG makes use of video-recorded interactions. More specifically, a trained VIG guider video-records the client's interaction with her/his communicative partner. After reviewing and micro-analyzing the video-recorded interaction, the guider selects exemplary moments of positive communicative exchanges between the two partners. Those selected moments of interaction make up a number of video clips, which are then presented to the client during the so-called shared review.

The primary aim of the shared-review that takes place between the VIG guider and the client is to provide a safe environment for the selected video-recorded positive moments of communicative exchanges to be watched and discussed. As shared reviews are also based on the Principles of Attuned Interactions and Guidance, a secondary but nevertheless important aim is to provide a model for the client of how those principles

may be applied to communication with others. The guider has been specifically trained to incorporate the principles into her/his way of communicating with others. Of course, working on the Principles of Attuned Interactions and Guidance is a life's work; for this reason, all accredited VIG guiders and supervisors are encouraged to take a life-long-learning stance in relation to VIG.

The impact of the video on the client is noticeable. Although, initially, some clients may express shyness or surprise, they quickly recognize the reasons why the guider selected those particular clips to share; through sensitive and attuned conversations, the client reaches an understanding of the structural and dynamic characteristics of the communicative exchanges with another person (e.g. infant, child, partner, colleague or therapist). Moreover, in the context of the shared review, the client has the opportunity to micro-analyze the interaction together with VIG guider, which allows the client to fully realize the power of the “now moments” (Stern, 2004) that may be lost and forgotten during the natural flow of an interactive exchange. The client is also in the position to understand the influence of her/his subtle communicative patterns on the other, as well as to realize that interactive coordination and emotional attunement are achieved through sensitive listening and appropriate responding to the other's needs, wishes and intentions.

The average number of video-recordings and the subsequent shared reviews is around 4 to 5, depending on the client and the client's initial demand. The termination of the VIG process is negotiated between the guider and the client, but usually the VIG process is concluded when the client feels that a good level of sensitive and attuned communication has been achieved with her/his communicative partner (Kennedy et al., 2011).

Applications of Video Interaction Guidance

Video Interaction Guidance has been used for prevention as well as for early intervention purposes. It has been applied to many different populations, such as postnatally depressed mothers and their infants (Vik and Hafting, 2006; Vik and Bråten, 2009), premature infants (Tooten et al., 2012) children with early language and communication difficulties (Anderson, Jones and Flack, 2014), autistic children and their parents (Gibson, 2011; Nikopoulos and Keenan, 2006), deaf-blind children and their educators (Janssen, Riksen-Walraven and van Dijk, 2003), preschool teachers and their students (Fukkink and Tavecchio, 2010), bank managers and their clients (Doria, 2013), to mention just a few. In 2012, the British National Institute of Health and Clinical Excellence recommended VIG as an effective evidence-based intervention to be used by professionals who work on promoting social and emotional well-being in under-5s (NICE, 2012). Over the last 20 years, the method has spread to other countries and continents, such as to Latin America (e.g. Mexico, Ecuador), Europe (the Netherlands, UK, Greece, The Czech Republic, France, etc.), USA and Australia. Most importantly, VIG has been proved especially effective with high risk groups (Kennedy, et al., 2011).

Infant Intersubjectivity: More steps forward

Currently, neurosciences are attempting to understand and explain the “social brain”. However, the neural substrates of human intersubjective interactions are still the land unknown. In order for the social neurosciences to walk on this unknown land, it may be necessary to combine the use of descriptive behavioural sciences and neuroscience techniques. For example, the simultaneous collection of data through video-recorded

face-to-face interactions between infants and caregivers and with fMRI might provide rich information on the abilities of the young “social brain” to reach for and get emotionally involved with a sensitive other.

Such a combined methodological approach would provide the opportunity for each method to be tested on whether it accurately studies what it is meant to study, by comparing the data from the two methods. In other words, a researcher’s description of early face-to-face infant-caregiver interactions in behavioural terms, with microanalysis, could be compared with an expert interpretation of fMRI data. If both methods agree on what is happening during this face-to-face interaction, their value in describing and interpreting early communicative exchanges will be confirmed. The need for the neurosciences to investigate natural real-time social encounters including at least two people, in order to demystify social brain has been previously underlined by other researchers, such as Schilbach and his colleagues (2013).

If such advances in developmental neurosciences can be used to study issues such as early intentional behaviour, early development of self-consciousness, and early expressions of infant sympathy with affective states of other persons, as those are described and understood in the context of the theory of Innate Intersubjectivity and the Innate Motive Formation, new insights may be brought to explanations of Autism, Regulatory Disorders, Attention Deficit/Hyperactivity Disorder, or Developmental Coordination Disorder. Then we will be in a better position to review and evaluate early intervention programs addressing these disorders, as well as to construct new, more informed and evidence-based ones.

Finally, the effectiveness of Video Interaction Guidance on promoting sensitive communication and sympathy to different populations and in variable settings indicates that the translation of the Innate Intersubjectivity Theory into service provision was

clearly successful. Thus, it may be worth to think of a more systematic transfer of knowledge between the Innate Intersubjectivity Theory and VIG's principles and methodologies. Concerning VIG, the development of evaluation procedures which will be able to explain the mechanisms through which it achieves such positive results would be an important step forward for this so promising method.

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***Η θεωρία και η έρευνα της Διυποκειμενικότητας: Η συνεισφορά τους
στο πεδίο της Αναπτυξιακής Ψυχοπαθολογίας και της πρώιμης
παρέμβασης***

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Περίληψη

Η θεωρία της Έμφυτης Διυποκειμενικότητας (Trevarthen, 1974, 1979; Trevarthen and Hubley, 1978), που διαμορφώθηκε βασισμένη σε αποτελέσματα μελετών παρατήρησης των επικοινωνιακών ικανοτήτων των βρεφών όπως αυτές εκφράζονται στο πλαίσιο των πρόσωπο-με-πρόσωπο αλληλεπιδράσεων με ευαίσθητους άλλους, αναγνώρισε στα ανθρώπινα βρέφη πρόσωπα με ισχυρό κίνητρο να επικοινωνήσουν με άλλους ανθρώπους και ικανά να το κάνουν ήδη από τη γέννησή τους. Νεώτεροι μελετητές, βασιζόμενοι στη θεωρία της Έμφυτης Διυποκειμενικότητας, μελέτησαν την πρόθεση, την μίμηση, την ενσυναίσθηση, τη συνείδηση στη βρεφική ηλικία, αναζωοπυρώνοντας έτσι το επιστημονικό ενδιαφέρον για την ανάπτυξη των πρώτων χρόνων της ζωής. Οι νέες γνώσεις πάνω στην πρώιμη κοινωνικο-συναισθηματική και γνωστική ανάπτυξη υποστήριξαν την ανάπτυξη και άλλων ερευνητικών πεδίων, όπως αυτά της Αναπτυξιακής Ψυχοπαθολογίας και της Πρόληψης και Πρώιμης Παρέμβασης. Ήταν ιδιαίτερης σημασίας η γνώση ότι τα βρέφη επικοινωνούν και συμμετέχουν ενεργητικά στις πρώιμες αλληλεπιδράσεις, γιατί πλέον τους αναγνωρίστηκε νέος ρόλος όχι μόνο στους ερευνητικούς μεθοδολογικούς σχεδιασμούς, αλλά και στα προγράμματα πρόληψης και πρώιμης παρέμβασης για ψυχικές και αναπτυξιακές διαταραχές στη βρεφική και νηπιακή ηλικία. Ένα παράδειγμα τέτοιου προγράμματος είναι και η Καθοδήγηση μέσω Βιντεοσκοπημένης Αλληλεπίδρασης (Video Interaction Guidance) που ενδυναμώνει και υποστηρίζει την ευαίσθητη επικοινωνία και την ανάπτυξη της ενσυναίσθησης. Τέλος, το επόμενο μεγάλο βήμα της Αναπτυξιακής Ψυχολογίας και της Αναπτυξιακής Ψυχοπαθολογίας σε ό,τι αφορά την περαιτέρω κατανόηση του ανθρώπινου *κοινωνικού εγκεφάλου* αναμένεται να γίνει με την ανάπτυξη νέων ερευνητικών σχεδιασμών που να προβλέπουν τη συμπληρωματική και ταυτόχρονη χρήση ερευνητικών τεχνικών των επιστημών της συμπεριφοράς και των νευροεπιστημών.

Λέξεις κλειδιά: Καθοδήγηση μέσω Βιντεοσκοπημένης Αλληλεπίδρασης (VIG), πρώιμη παρέμβαση, Αναπτυξιακή Ψυχοπαθολογία, Θεωρία της Έμφυτης Διυποκειμενικότητας.