Managing relational conflict by closing the intention and behavioural gap through the use of a 3 dimensional visualisation and simulation model

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Abstract: Disappointment in interpersonal relationships may arise from a gap between the intentions and actions or perceptions that each person has of their own intentions and actions and those of others (Intention and Behaviour Gap). This gap can originate from: (a) a diminished or lack of insight or awareness of own emotions and behaviours, and it's effect on others, (b) lack of awareness of the intention or the desired outcomes and (c) the gap existing between the two people as well as the (d) inability to change behaviour. This gap could be related to behaviours people have that have become known and culturally accepted as rigid and inflexible. Consequently, the person focuses on their intention with little to no self-knowledge of the displayed behaviour, thus judging their own actions on their good personal intention while judging others based on their perceptions rather than the others’ intentions. This inclination amounts to self-righteousness and can increase the likelihood of frustration and anger towards the perceived bias and lack of fairness towards others. In turn, this might cause interpersonal discord, resentment, misunderstanding, and conflict.

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PUBLIC INTEREST STATEMENT
Have you ever felt perplexed, confused, disappointed or even angry by the way others responded to your well-intentioned actions? You are not alone; you may have experienced the result of an Intention and Action Gap. One of the major causes of disappointments and tension in relationships is mutual misunderstandings showed in relational conflict, often with dreadful consequences. Such situations often result from a gap between the intention of what one person may desire to convey and the way the person acts and or how the other person perceives it. This article addresses this common relational issue correlating the use of a practical technique to a theoretical perspective to neuroscience, to what happens in the brain. This article is part of a series of papers on how to learn how to live better in relationships. To be informed of more articles, email the author to Dr. Carlos@Relationship.Capital
To address this behavioural gap, this study proposes the application of a 3-Dimensional, Visualisation and Simulation Model (3DVSM) to enhance insight into own and others behaviours and actions, followed by connecting one’s actions to the desired intention. The ultimate goal is to instil a desire for modifying one’s behaviour, thus reducing interpersonal conflict by shortening the gap between intention and action.

**Subjects:** Interpersonal Processes & Communication; Non-verbal Communication; Attitudes & Persuasion; Cross Cultural Psychology; Cognitive Psychology; Counseling Psychology; Behavioral Neuroscience

**Keywords:** awareness; behaviour; behavioural change; consciousness; counselling; coaching; emotional intelligence; social intelligence; insight; cognitive dissonance; cognitive bias; conflict resolution; intention; interpersonal relationships; life satisfaction; mirror motor neurons; neuroscience; spindle cells; self-help; leadership; management; psychotherapy; social cognition; language; Playmobil; Play of Life; psychodrama; role reversal

1. Introduction

This is the first paper of a research study series on practical tools to “Learn how to live life better in relationships”, a proposition based on Raimundo’s (2010) “Relationship Capital” (RC) model. The RC model is also based on the belief that the “truth is between us”, not in one person or in the other, but in the dynamic interaction between the “I (the self) and the other”. This is a concept proposed by Jacob L Moreno (1953), Martin Buber (1958) and Levinas (2003), among others.

This paper introduces the 3-DVSM, its foundations, the two competencies of ESI and the basic neuroscientific underpinnings of the model. To its purpose, a case study is used to demonstrate a typical session using the model. The study starts with the topic chosen for the case study on the shortcomings, in relationships, as a result of a gap intention and behaviour.

Interpersonal relationships are at the centre of the present study. It is about “learning” how to live better by improving our social and environmental dynamics. Interpersonal relationships are a natural desire and inclination of human nature. Maturana and Varela. (1998) argue that this desire is “a basic ontological feature of our human condition that is, we have only the world that we bring forth with others, and only love helps us bring it forth.” (p.248) The series does not deal with love, directly, but on the principle that, as N. T Write (2012) being human implies seeking to live life better aiming to be closer to the person and society we are meant to be. (9:26 Hr Audiobook). Lewis, Amini, and Lannon (2001) in “A General Theory of Love”, points out “We live immersed in unseen forces and silent messages that shape our destinies. As individuals and as a culture, our chance for happiness depends on our ability to decipher a hidden world that revolves—invisibly, improbably, inexorably—around love.” (p. viii) With Lewis et al. (2001) this papers agrees that “locating love’s precepts is a daunting task.” (p. 5) but, as they continue arguing “every conception of love inevitably depends on a view of the broader totality of the emotional mind.” (ibid).

The series capitalises on contemporary neuroscientific research that has open up a new world of discovery on “knowing how we know” or “how we know our own knowledge” (Burton, 2008; Gazzaniga, 2011a, 2014; Maturana & Varela, 1998), knowing how we became, evolve, as a thinking, feeling and relational humans (Damasio, 1999, 2010, 2018; Harari, 2014; Koch & Crick, 2001; Lewis et al., 2001).

The model proposed, to enhance awareness of emotions and behaviours, is a language-independent 3-Dimensional, Visualisation and Simulation Model (3-DVSM), developed by Raimundo (2014). The 3-DVSM is part of the expressive, experiential or active methods of counselling and
communication, derived from Moreno's (1953) and Rojas-Bermudez and Moyano (2012) psychodrama theory and techniques.

The series uses the Emotional and Social Intelligence model (ESI) as a point of reference regarding emotions, behaviour, and interpersonal relationships. ESI is a competency model popularised by Goleman (1996) and expanded by other researchers such as Seal, Boyatzis, and Bailey (2006). The ESI model was chosen for being research-based, simple and effective in highlighting the relevance of emotions and behaviours conducive to behavioural change.

The motivation for the present study was especially encouraged by UCLA Associate (Ass) Clinical Professor Marcel Ponton and UCLA Ass. Professor Hermes J Garban. According to Ponton (2003), citing a professional case using the model with a “survivor of two gunshot wounds to the head, who had to undergo a partial temporal lobectomy. As a result, he presents with profound transcortical aphasia” he believes that “the 3-DVSM (Play of Life® is a tool that enhances a patient's ability to communicate deep-seated issues in ways not accessible to common discourse.”

Garban (2003) suggest that the 3-DVSM (Play of Life®) “allows simple and objective way of intervention.”

1.1. Method
The method used in this paper is of literature review and the use of a single case study to elucidate on the topic. According to Gerring (2007), single case studies, also described as “mere” case study, are a type of “informal and undisciplined research design” based on “subjective conclusions, nonreplicability, and causal determinism.” (p. 6) The case study used does not aim to gain scientific validation but, as proposed by Durlak (2003 who argues that case study methodology is of “little scientific value it helped” to help to “generate hypotheses for subsequent research.” (p. 250)

The model used as a therapeutic intervention is the 3-d Emotional and Behavioural Visualisation and Simulation model commercialised as the Play of Life. The purpose of the paper is to demonstrate the use of the model to elicit or enhance insight into own emotions and behaviours and the impact on others.

Insight, according to Castonguay et al. (2007) is a conscious meaning shift involving new, emotional and behavioural, connections “(i.e., ‘this relates to that’ or some sense of causality).” They also posit that insight is “recognised as an important vehicle of change across a variety of theoretical approaches in psychotherapy.”(p 442).

1.2. Limitations of this study
This paper is limited to the exploration of the use of the 3DVSM in enhancing insight of own emotions and behaviours and awareness of the emotions and behaviours of others in response to their actions. In other words, it is a model to experience an “aha” moment that for Kiefer et al. (2013) is “when the clouds part and the solution to your problem arises right in front of you” (p. 8). However, Robson (2012) and Castonguay et al. (2007) argue that insight or an “aha” moment is not enough to affect behaviour change. The use of the model to cause behavioural change will be addressed in future articles in this series. Further papers will also discuss the feedback and follow-up process as regards the effectiveness of the technique from the client’s perspective as well as its effect on other people in the relationship.

Likewise, this paper addresses only the intention and behavioural gap, referring to a situation where the intention or intentionality of a person (or organisation) is enhancing the wellbeing of the “other” individually or collectively—or, at least, causes no harm to the wellbeing. It does not address situations where a person's intent or intentionality is hurting, controlling or even eliminating others. Equally, this paper does not dwell on psycho-socio-neurological disorders that delay or impede insight into own or other's emotions and behaviours, thus inhibiting behavioural modification.
Furthermore, this article does not make a comparative analysis of the effectiveness of verbal therapies against that of expressive or other therapeutic models. Future research, including empiric studies and neuroimaging, are necessary to demonstrate and consolidate the literary review and efficacy of the model introduced in this paper.

1.3. Limitations to the use of the model
The use of a single case study or a stand-alone sample as the only example of how to expand on a theoretical model could generate false positives regarding the efficiency of the model.

1.4. 3 dimensional visualisation simulation model as a tool to manage the intention and behavioural gap
This study works on three aspects. It focuses, as a point of reference, First, using as a point of reference the two competencies identified by Cherniss, Extein, Goleman, and Weissberg (2006), overlapping among the different models of Emotional and Social Intelligence: “awareness of own emotions and behaviours, and the management of the emotion and behaviours of others” (p. 240). Second, the study looks at how those capabilities can be enhanced through the application of the 3-DVSM that promotes behavioural change. Finally, it relates Emotional and Social Intelligence and the 3-DVSM to a literature review on contemporary neuroscience. Qualitative and quantitative analysis of the model is also underway.

1.5. The intentional and behavioural gap
We all experience a tension between our intentions and actions. This tension can have little significance or it can have a “butterfly effect”. The “butterfly effect” is a phenomenon in which “a butterfly flaps its wings in China and sets off a tornado in Texas.” This is a phenomenon where “small events compound and irreversibly alter the future of the universe” (Boeing, 2016). A person may be aware of the disparity between their intention and the resultant action. They may also, however, never be conscious of it, its significance and effect. This process is for Blackwell et al. (2001) the capacity that humans “have an inherent tendency to infer other people’s intentions from their actions.” (p. 561)

The space between intentions and actions is described by Pronin (2008), as “Intention and Behavioural Gap”, and Rhodes et al. (2013) call the behavioural gap dissonance. Both argue that this phenomenon produces shortcomings in relationships. According to Pronin (2008), people are likely to base their judgements on their good intentions rather than consider the possible intentions of others”(p. 1180), producing cognitive and behavioural biases. For Bidlack (2015) this inclination is self-righteousness, arguing that it could increase the likelihood of frustration and anger towards the perceived bias and lack of fairness by others; this, in turn, may cause discord, misunderstanding, and conflict. The intention and behavioural gap can be aligned with Jesus’ “Why do you look at the speck of sawdust in your brother’s eye and pay no attention to the plank in your own eye? NIV Matthew 5:3.

1.6. The need for certainty
Focusing our own intentions and on the behaviours of others could create a self-righteous, sense of, “I’m OK, you’re not OK” as described by (Berne, 1968). According to Enkel et al. (2010), Galperin et al. (2013), Haselton and Nettle (2006), and Burton (2008), this gap and the sense of “I’m OK” might originate from cognitive biases. These are stories created by the mind affecting the assessment of self and others and thus developing a judgemental and critical attitude towards others’ behaviours while asserting that the own behaviours are right or justified. This process is developed by the neocortex. For Damasio (2010) the perception of own self, he calls the “knower” (p. 17), is the result of the editing information by the neocortex (rational brain) that has been communicated by sub-cortical, (non-conscious) brain areas. Maturana and Varela. (1998) argue that the neocortex develops needs to create a sense of certainty, so to avoid uncertainty and or a feeling of failure, clouding our awareness of self and tainting how we see others.
For Seal et al. (2006), a way to deal with the intention and a behavioural gap is to increase an individuals’ ability to notice, be conscious of, perceive, or be aware of not just their intentions but, equally important, how their actions affect others. This amounts to an awareness of how others respond to their own behaviours by perceiving the emotions and actions of others. Such an insight would contribute to the individual’s awareness of the tension between their intentions and the ability to convey them into actions. It could then increase their willingness to develop an ability or skill to change and adopt new behaviours. Duhigg (2012), Robson (2012), and Tritsch (2016) describe this process as behaviour or habit change.

Cherniss et al. (2006) described the insight into or awareness of one’s own emotions and behaviours as one of the overlapping competencies among the different models of Emotional and Social Intelligence (ESI). The other competency is “awareness and management of the emotions and behaviour of others” (p 240). Goleman, Boyatzis, and McKee (2013) state that the demonstration of ESI competencies rests in “how people handle themselves and their relationships.” They argue that both emotional intelligence and social intelligence competencies result in “effective or superior performance” in personal life relationships and leadership. (Boyatzis, 1982, p. 757).

Consequently, this study proposes that enhancing insight into one’s own emotions and behaviours as well as an awareness of the desired intention might motivate new behaviours thus reducing the intention and behavioural gap. The possible positive effect would be a reduction interpersonal discord, resentment, misunderstanding, and conflict.

1.7. Examples of intention and behaviour gap

In the Australian context, two Royal Commissions recently documented this gap. These are the Royal Commission into Institutional Responses to Child Sexual Abuse (2017), not expanded in this paper, and the Royal Commission into Misconduct in the Banking, Superannuation and Financial Services (2018).

The second example refers to the intention behavioural gap in the financial sector as presented by the Royal Commission in the Banking, Superannuation and Financial Services (2017). CEO Craig Miller (2015) stated that the intention (vision) of AMP Financial Services is “to help people own tomorrow [and] to create a better tomorrow for our customers, our communities, and our shareholders”. As regards the action or behaviour of AMP, The Royal Commission reported that “the company charged customers hundreds of millions of dollars in fees for financial advice they never received” and that “took years to compensate them” (Janda, 2018). Additionally, “AMP may have been unlawfully deducting service fees from customer accounts since 2009” (Han, 2018). It demonstrates a clear intention and behavioural gap.

The aim of referring to the intention and behavioural gaps in the two examples is to acknowledge the gap, it is not to point a finger of judgement but to consider that it this behavioural pattern may be intrinsic to human life.

Dawkins in “The Selfish Gene” (1989), considered selfishness as a genetic trait that is difficult to alter. Human beings are, however, the only species that can attempt to change the trait due to their evolved frontal lobe. He states,

“Be warned that if you wish, as I do, to build a society in which individuals cooperate generously and unselfishly towards a common good, you can expect little help from biological nature. Let us try to teach generosity and altruism because we are born selfish. Let us understand what our own selfish genes are up to, because we may then at least have the chance to upset their designs, something that no other species has ever aspired to.” (p. 10)
This gap is also described by biblical writer Paul of Tarsus, referring to his own life, “I do not understand what I do. For what I want to do I do not do, but what I hate I do” (Rom 7:15 NIV). Also, Tolstoy expressed the same dilemma. According to Yancey (1995), Tolstoy, who was an inspirational figure for Gandhi (Gokhale, 1972) and Martin Luther King Jr. (M. Green, 1981), experienced the gap between his philosophy of life and his behaviour. Tolstoy had great regrets about the gaps between his intentions on how to live life and how he lived (Yancey, 1995). Tolstoy encouraged his followers to believe his teaching but not to follow his actions. He taught his disciples to follow the directions he gave to his house but, do not follow, the drunkest, the path he followed. (p. 80)

Also, Moreno, who is the creator of the encounter movement, showed a gap between his theory and his behaviour, especially with those who disagreed with him (Blatner, 1991; Marineu, 1989; Howie, 2012). Moreno inspired the founders of the creative or experiential schools by proposing a language of encounter and meeting among people, of tolerance and diversity. However, he displayed judgemental, critical, and abusive behaviours towards some of his contemporaries. These behaviours are considered reasons that isolated Moreno from his colleagues, isolation that affected the credibility of his methods.

This study attempts to find ways to close the gap between intention and behaviour because it affects the individual and everyone in their relationships. If the gap is reduced life can be lived closer to our desires thus reducing interpersonal conflict and disappointment.

The following section introduces the 3-DVSM proposed and a case study to, practically, demonstrate the model. The case study refers to a mother and daughter relationship, it could seem mundane compared to the cases raised on the Royal Commission, but it describes the same dilemma we all face in relationships: the often difficulty of, walking the talk.

1.8. The 3-dimensional visualisation simulation model
Raimundo (2015) conceived the 3-dimensional visualisation and simulation model in 1984. Originally naming the model Le Petit Psychodrama due to its roots in psychodrama, later commercialised as the Play of Life®.

The 3-DVSM has its foundation on Moreno’s (1953), Rojas-Bermudez and Moyano (2012) and Clayton’s (1994) Psychodramatic theory and techniques. The model also integrates the works of Buber (1958), Mead (1967), and Levinas (1998), especially regarding interpersonal relationships and is based on contemporary neuroscience.

The 3-DVSM model is considered part of the multisensorial, experiential, expressive or active models of therapy and education. These are models used by a practitioner to interact (communication) with the client and to elicit insight (reflection) from the client in addition to verbal communication (Wiener, 1999, p. xii). They include physical activities, expressive art methods, rituals or drama. These methods expanded the central point of verbal communication and the status of the language. (ibid) Therapeutic models within expressive and actions methods include, among others, Psychodrama (Moreno, 1953), Gestalt (Becker, 1982; Perls, 1972), Sand Play (Schiller & Schiller, 1981), Art Therapy (Deaver, 2002), Play Therapy (Axline, 1969; E. J. Green, 2013), Drama Therapy (Sternberg, 1999), Serious Play (James, 2013),Dance Therapy (Payne, 2003).

1.9. A brief description of the model
In short, the 3DVS model is a tool that enhances emotional and social intelligence and behavioural change. The 3-DVSM integrates theories, a set of techniques and a Play of Life ® kit consisting of small figures, props and a board or stage (Picture 1). Raimundo (2008)
A typical 3DVSM session has three stages, Warm-up, Serious Play and Share and Go. The session begins with a Warm-up; in this stage, the conversation between the coach and the client starts with a short verbal description of the topic or problem they desire to address. It soon moves into stage two, “Serious Play”, the core of the model and mostly carried out with minimal or no verbal communication. It consists of three steps. In Step one, the issue is dimensional, visual way as is perceived in the present. In Step two, the “intention” is depicted, by creating an ideal relational scenario and step three an analysis of the gap, when present, between the reality and the ideal. It concludes with stage three, “Share and Go”, where key learnings from the session are rationally analysed and key steps to follow are identified. (Raimundo, 2008)

Expanding on the Serious Play stage, the facilitator follows the directions or protocols of a specific technique he or she finds appropriate for the case. The practitioner guides the client to depict, step a symbolic representation of the present situation using the small figures and props on the stage. This process takes place without verbal communication.

Once the 3-D image is created, the client, through the manipulation of the figures and the visualisation of the image created, reflects in silence on the relational dynamics depicted in the scene. The practitioner then guides the client to describe verbally what they had depicted and named the emotions and actions at play in each of the characters represented beginning with a self-description.

Through the process, the client becomes an observer of their own life depicted in front of them and gains insight into his or her own emotions and actions as well as the emotion and actions of others. At this stage, the client mostly works interactively with the figures, with little or no verbal communication. Next based on the insight gained the practitioner guides the client to symbolically depict his or her ideal relational scenario using new figures and props—on a new stage where the ideal scenario will be depicted. The client describes the emotions and actions displayed by those represented on the scene. The representation provides a visual display of the client’s intention or relational desires.

In the next step, the client observes the two images: the real action (what he/she is doing) and the ideal action (their intention or desires). The client visually experiences the gap, when present, between both.

By looking at the real action, the client identifies the actions or behaviours he or she could consider changing or modifying in order to achieve an outcome that more closely resembles his intended outcome. The client achieves this by manipulating, changing, and re-positioning the figure that represents him/herself. This is a simulation process of testing and finding ways that could elicit healthier and more constructive responses from others, thus enhancing better relationships. The session end with a Share and Go stage that provides an insight into the dynamics at play in each scenarios. The awareness gained aims to motivate a desire to change towards better living. The client leaves the session with an action plan to practice what they have learned.

3DVSM basic steps regarding insight: (it does not included steps for behavioural modification)

1. Verbally describe the relational issue to address
2. Symbolically depict the relational situation using figures and props
3. Describe the Active Roles at play on the stage (insight on own and other’s emotions and behaviours)
4. Reflect on the picture represented and the roles play
5. Describe the insight gained on own and others' behaviours

The use of the model provides:

a) an experiential and visual insight (reflection) into their own and others' emotions and behaviours of the present situation.
b) a three-dimensional picture of the desired intention;
c) an awareness of the gap between the desired intention and the present behaviour, including insight into how others perceive their actions, and a simulation process towards finding behavioural alternatives towards change.

The case study in this paper follows standard ethical guidelines for case study writings. The following is an abridged version of a clinical case study demonstrating the model in action.

A mother called Ruth feels frustrated and resentful with her 12-year old daughter, Amber, for withdrawing—often angrily—whenever she attempts to help her with her homework. Ruth is concerned about Amber's studies as she's performing poorly in the class. She does not want her daughter to suffer at school as she did. Ruth believes (her intention) that she's playing the role of a “caring and loving mother-educator” and expects her daughter to respond as an “interested and grateful learner”.

She cannot understand why Amber avoids her and disregards her instructions and her caring and loving attitude. Whenever Ruth tries to address these issues with her daughter, the conversation ends in a fight. A fight that often involves others in the family, her husband and their children. The case study only reflects the relationship between mother and daughter.

In a coaching session, in the Serious Play stage, using the Play of Life®, Ruth creates a symbolic representation of the present situation using small figures on the stage and visualises, in 3-D, the relationship between her and her daughter. Using a figure, Ruth depicts herself standing up with one hand lifted towards Amber. She positions Amber facing back to the mother, slightly bent down and moving away from her. (Picture 2)

When she describes the picture representing herself, she says (her intent) “I want to be a loving and caring mother and help her to learn”.

Later, she becomes aware of her daughter's emotions and actions. She achieves that by placing herself in Amber's place (in her shoes), a technique called role reversal. She discovers that from Amber's position, “being Amber”, she perceives her mother as overbearing and shouting at her. She does not feel her as a “caring and loving educator” but as an “overbearing, anxious screamer”. (Picture 3)

Continuing in that role, as Amber, she realises that escaping from the situation is the safest action to take or role to play. She recognises the role Amber plays as a “scared escaper”.

The naming of the emotions and action represented in the positions of the figures are part of the Active Role Theory (Raimundo, 2017). In applying Active Role Theory, she discovers that the role dynamic at play is: “Overbearing, Anxious-Screamer” (mother)—“Scared-Escaper” (daughter).

Ruth has become aware of the emotion and action she was perceived of playing, becoming mindful of the effect of her behaviour on her daughter.
In step two of the Serious Play stage, Ruth creates, using another stage and besides the previous scenario, an image describing her intention or what she desires to be and do, relating with her daughter. (Picture 4 a, b)

She depicts herself and Amber sitting down beside each other, facing forward with their sight on the same point.

Ruth places a little prop in front of them symbolising “doing things together”, which include homework. She describes the Active Role she is playing as “relaxed playmate”. She feels relieved of the anxiety of being an “educator”. She’s also surprised of reflecting on her “loving and caring” attitude. She realised that its real, but in this case is felt as a chore, based on fear, not as a spontaneous flow. “Relaxed playmate”, felt just right.

Then, she places herself in Amber’s place (role reversal) beside the mother and experiences being happy, relaxed and in “good company”. She names the Active Role as “happy-relaxed-fun-buddy”.

Ruth identifies the Active Roles at play in the ideal situation as “relaxed playmate” (mother) — “happy-relaxed-fun buddy” (daughter)

The visualisation of the two images—the present scenario and the intended action, one besides the other—has helped Ruth to have an insight into the gap between her intention, her behaviour. (Picture 5) It also helps Ruth to identify where she learnt that role (her mother). The process revealed a new relational behaviour, a new role to play with her daughter.

Then, not fully described in this paper, by manipulating the figure that represented her in the present situation, she identifies the “First Step” she needs to do towards change. The First Step is to “lower her arm and to sit down”. (Picture 6) She simulates the movement a few times to visualise and incorporate the action towards making the change familiar.

In conclusion, Ruth became aware of her emotion, “anxious”, and her behaviour, “screamer”. She also became aware of her daughter’s emotions and behaviour, “scared escaper”. Subsequently, she was able to visualise and to reflect on the intention she desired. It also helped her to modify her original intention, being a “caring -loving mother-educator” and discovered that the most appropriate role to play was, at this point of time, a “relaxed playmate” that would invite her daughter to play the role of a “happy-relaxed-fun buddy”. Ruth realised that by changing her way of relating to Amber would likely produce a change in her daughter’s ways of responding to her. This possibility motivates Ruth to develop a new role. In reflecting on the new role, while still looking at the images on the stage, Ruth had another reflection,

“this is the life I always wanted to live. A peaceful life, relaxed, not worried all the time predicting whatever wrong could impede what I or we as a family need to achieve. It’s
exhausting! I know where I learnt it. Now I need to learn a new way of living. What a paradox, I wanted to be my daughter’s educator, and she became the one who’s teaching me.”

This section had briefly described the effect that intention and behaviour gap has on relationships. That the gap may not be evident due to cognitive biases, which is a neocortical process that is difficult to be aware of and change by rational thinking. Additionally, the suggestion that the neocortex develops a sense of “knowing” (Burton, 2008; Gazzaniga, 2011) (cognitive bias) based on subcortical emotions information suggests that stimulating subcortical areas bypasses cognitive bias thus providing new insights, a new way of editing emotional information (Damasio, 2010). By manipulating and positioning the 3-D figures, while the person is working in silence, stimulates subcortical circuitries. This enhances awareness about one’s own and other people’s emotions and behaviours. It also elicits a desire to find new relational roles thus improving relationships (Maturana & Varela., 1998). Recalling R. T. Right “living a life close to what it is meant to be”

The following section describes the basic foundations of the model and its neurobiological underpinning.

2. Theoretical foundations underpinning the 3-DVSM
Raimundo developed the 3-Dimensional, Visualisation and Simulation Model in 1986 (Raimundo, 2014). The model finds its roots in Moreno’s (1953) classical psychodrama and role theory, Rojas-Bermudez’ (1997) Role Scheme theory, Rojas-Bermudez and Moyano (2012) Symbolic Image psychodramatic technique, and Clayton (1993) role theory.

Philosophically, the model is based on interpersonal relational theories as pioneered by Jacob L. Moreno, who states that it is only possible to understand human behaviour in inter-action based on the dynamic role people play with others. An essential function of the 3DVSM is to symbolically depict the action existing between people, consistent with Moreno’s philosophical belief, “Action not words” (Marineau, 1989, p. 20). For Moreno (1953), “Drama is a transliteration of the Greek δάρυα, which means action or a thing done.” Therefore, psychodrama refers to the science that explores the “truth” by dramatic, action, methods. “It deals with inter-personal relations and private worlds” (p. 81). Other philosophical positions about personal identity that have been influential include Buber’s (1958) concept of “I and Thou”, Mead’s (2015) “Mind, Self and Society”, and Levinas’ (1998) “entre nous: On thinking of the other”.

3. Roles and identity
Moreno (1953) describes behaviours or the actions people play as roles, adding that “every role is a fusion of private and collective elements” (p. 75). He suggests that “[r]oles do not emerge from the self, but the self may emerge from roles played” (p. 76). Following this trend of thought, what determines the Self or identity of a person are the roles a person plays in a specific moment, not the intention the person has. In line with this thinking, it can be argued that “I am” consists of “what I am doing” in “relationship with”, and each one influences the “identity” of the other. Hence, its importance to describe behaviours or roles and the aim to the possibility of learning new roles, hence a new identity.

Based on Moreno’s proposition it can be argued that, in the case study, Ruth did not only changed the role she was playing with her daughter but it modified her identity, from “anxious Screamer” to becoming, a “Peaceful Playmate. An identity that Ruth recognises is “closer to the person she meant to be.”

4. Neuroscience underpinnings
This section aims to introduce some of the neuroscientific research that underpins the proposed effect of the 3-DVSM in stimulating neural circuitries towards enhancing insight. The literature cited is based on traditional, developmental, cognitive, behavioural, affective, clinical and social neuroscience, as well as on neuroleadership.
5. Relating the case study to neuroscience

In the case study, stage two of the session—namely Serious Play—takes place mostly in silence, the client reflects on her issue by manipulating small figures and props positioned on a stage. Working in silence, reflecting and communicating through action, is the major difference between 3-DVSM and traditional verbal counselling and coaching. Traditional methods rely, mostly, on “words” and verbal communication, a rational neo-cortical mechanism (Wiener, 1999). Aboitiz and Garcia (1997) refer to verbal communication as a cortico-cortical (rational/conscious) process. For them, a non-verbal process of reflection and communication, as proposed in the 3DVSM, is not limited to a “cortico-cortical” (rational process) interaction or language network, a network that is the precondition for language and reflection in the evolution of human beings (p. 382).

Referring to the case study, the client’s manipulation of the figures is comparable to James (2013) use of Lego® figures in his research on “Serious Play®”. He suggests that the manipulations of the figures in the creation of 3-D representations, as used in the 3-DVSM, seemed to activate the meta-analysis of emotion (James, 2013, p. 7). Adolfi et al. (2017) agree with this suggestion, adding that the nonverbal reflective process consists of a “subcortical-cortical” (emotions—reason) brain process. The subcortical-emotional, a non-conscious brain process, informs the neocortex in a bottom-up manner where a conscious process of reflection occurs (p. 135). Moreover, the visualisation and manipulation of the figures seem to lead to the creation of links between the cortical systems for language and action, providing, as Pulvermüller (2005) proposes, a relationship between non-conscious action with language and reason (p. 575). To that point and expanding on it, Stout and Chaminale (2012) refer to overlapping cortical networks involving somatosensory, visual and language (Broca) centres. They suggest that these networks integrate sensory perception, motor control, and language (p. 76). The current study proposes that the manipulation of the figures in the 3-DVSM is a similar practice to the “visuospatial, somatosensory, and manual’s” goal-directed motor act of tool making (ibid). This network, an anatomical overlap with related neural circuitries (See Picture 1), renders a link between picture recognition and action performance to linguistic references (p. 78).

This study suggests that the manipulation of the figures stimulates, simultaneously, several para-verbal neural circuitries (non-conscious process) while stimulating language centres (rational, conscious) through overlapping and linked structures. The outcome of this subcortical-cortical process, according to Corballis (2011) develops a narrative (language) with a specific meaning (rational) within the given context (p. 25). The articulated story is then transformed into a recursive language and part of the “verbal” communication between the client and the coach (ibid).

Referring to “bottom-up” brain communication, Damasio (2010) theorises that the “Brain begins building conscious minds not at the level of cerebral cortex but rather at the level of the brain stem” (p. 23) and that this process is “built-in stages” and begins at birth (p. 191).

From birth, starting in the brainstem (or the proto-self) and progressing to the limbic system (the core-self), the brain registers emotions as “images”. This process is automatic, non-conscious and wordless (Damasio, 2010,p.23). Damasio (2010) argues the neocortex receives the information as it was stored in image form before organising it in a “spontaneous editing process” (p. 195). This progression creates consciousness, the Self, a story of given events based on emotions and perception resulting in “the knower”, i.e. a sense of certainty (p. 196).

Similarly, Burton (2008) refers to “the knower” as “feeling of knowing”. He describes certainty as a neo-cortical construction of experiences and emotions that happens spontaneously and without control. Burton (2008) argues that we have a “feeling of knowing explaining, justifying or fudging what had already been done or thought” (p. 82). It is a knowing without really knowing (ibid). Maturana and Varela. (1998) describe the feeling of knowing as the need for certainty, while Gazzaniga (2012) calls it cognitive bias. They all coincide that these processes are hard to challenge through “thinking” as the mind will believe what it has created.
5.1. Relating the case study to the “feeling of knowing”
This study argues that (A) the feeling of knowing (or certainty) described in the case study—where the mother had the certainty of being a “caring, loving mother-educator”—was related to the mother’s intention, she then developed a cognitive bias to justify her behaviour, she was not fully aware of. Her certainty, of believing she was acting according to her intention, continued to feed a familiar role learnt from her mother she was unaware of playing, reinforcing its rigidity and strengthening the relational system with her daughter. She was surprised, anxious, and angry that her daughter did not respond as an “interested and grateful learner.” Instead, she faced rejection and anger, resulting in relational discord, resentment, misunderstanding, and conflict. (B) Through non-verbal ways of reflecting and communicating, the client was able to access sub-cortical and cortical, language-independent areas. New information was communicated to the neocortex, eliciting new insights/consciousness of emotions and behaviours in herself and her daughter. This study also suggests that the process through which the brain “edits” information (Damasio, 2010) is an ongoing process that cannot rely only on one coaching intervention. It would need repetitive and multidimensional verbal and nonverbal methods to reach self-awareness or insight into the gap between intentions and action and to consistently develop new roles (Seal et al., 2006).

6. Sub cortical and cortical circuitries related to insight
This study hypothesis, as previously mentioned that the use of the 3-DVSM stimulates several subcortical and cortical centres (non-conscious brain circuitries) simultaneously by contributing to the enhancement of insight. They include the visual, auditory, motor and sensory centres among others. They also include neural networks that interconnect the sensory centres, emotions, and neo-cortical centres such as the mirror motor neuron system, spindle cells or Von Economo neurons, the amygdala, the precuneus as cited also by Cavanna et. Al (2006) and the insula—also related to insight processes as Theory of Mind.

The following section shortly describes the function of the amygdala, mirror neuron system and spindle cells relevant to insight and empathy. Furthermore, together with other centres, they are central to the development of Emotional and Social Intelligence (Goleman & Boyatzis, 2008).

7. The amygdala
Goleman (1996) identifies the amygdala as one of the central points of our emotions (1996, p. 25). He referred to the amygdala as the “the seat of all passion” with relevance to its anatomical position within the brain. It is located above the brainstem, within the two hemispheres, and is a part of the limbic system or limbic ring that together with the hypothalamus gives rise to the cortex and then the neocortex (Goleman, 1996, p. 26).

He also refers to it as the “emotional sentinel [that] challenging any situation and every perception. For example, “Is this something I hate? Does that hurt me? Something I fear? Are questions that frequently arise because of the amygdala” (1996, p. 26).

He compares it to a “neural tripwire, telegraphing a message of crisis to all parts of the brain.” If the response is affirmative, the amygdala reacts immediately to trigger the alarm system of the body by secreting fight-or-flight hormones (1996, p. 26).

The amygdala is considered to be an important nuclei of the brain in the roles of processing of memory (Larry, Ralf, Hans, & James, 1995); decision making (Adolphs, Tranel, & Damasio, 1998; Atlas, 2112); and emotional responses (Davidson, 2002; Phelps, Christopher Gatenby, Gore, & Davis, 2001; Phelps & LeDoux, 2005).

This paper argues that the process of looking, literally, and projecting oneself into the different roles played on the stage has triggered the amygdala. “Ruth”, being in the mother’s role motivated fear in seeing her daughter failing at school (in life) and the fear of losing her daughter, (by looking at her back, moving away). While in her daughter’s role, she felt the fear of being put down, feeling
of failure, and of being screamed at by the mother. She needed to seek safety and move away (escape) from being put down and yelled at by her mother.

8. Mirror motor neuron

Goleman and Boyatzis (2008), see the function of the Mirror Neurons (MNs) as a “stunning recent discovery in behavioural neuroscience that is widely dispersed in the brain” (Goleman & Boyatzis, 2008, p. 3) with an important influence on empathy.

Mirror neurons were discovered in the ventral premotor cortex (area F5) by Rizzolatti and his team at the University of Parma (Rizzolatti & Craighero, 2004, pp. 169 – 192). In highlighting the relevance of the MNs, Rizzolatti and Craighero, place significant importance on interpersonal relationships and survival. They claim that “If we want to survive, we must understand the actions of others. Furthermore, without this understanding, social organisation is impossible” (Rizzolatti, 2005, p. 15). Rizzolatti, Fabbri-Destro, and Cattaneo (2009) claim that, “the essence of this ‘mirror’ mechanism is as follows: whenever individuals observe an action being done by someone else, a set of neurons that code for that action is activated in the observers' motor system” (p, 23) . Gazzola, Rizzolatti, Wicker, and Keysers (2007) support Goleman and Boyatzis' claim (200) about the importance of MNs on relationships stating, “Understanding the goals and intentions behind the actions of other individuals is essential for survival and normal social functioning” (p. 1674) . They add: “By linking the actions of others to the observer’s corresponding actions, the existence of mirror neurons suggests that our understanding of the actions of others derives from translating them into the vocabulary of our own actions” (Gazzola et al., 2007, p. 1674).

Williams, Whiten, Suddendorf, and Perrett (2001) expanding on the function of MNs claim that the MNs “show activity in relation both to specific actions performed by self and matching actions performed by others thus providing a potential bridge between minds” (Williams et al., 2001, p. 287). The MNs process will be later related to other coexisting neurocircuitries that maximise awareness of self and of others.

This paper suggests that through the manipulation of the figures and the visualisation of a relational scene depicted the MNs are stimulated resulting in the insights previously described. Insight also comes from the client’s reflection on her and her daughter’s fears stimulated by the amygdala. Furthermore, it was that process that led the mother to reflect, through visual and multi-sensorial stimulation, on the interpersonal dynamic with the daughter beyond her previous assumptions.

9. Spindle cells, their role in empathy

In continuing with the concept of understanding the actions of others. Goleman and Boyatzis (2008), describe the importance of spindle cells. They call them “our social guidance system” and a key contributor to the development of what a “Finely Attuned Leader” (p. 4). They also relate spindle cells function in association with Mirror Neurons (ibid). They suggest that spindle cells are related to the emergence of empathy and that this is an instinctual capability that can and must, be nurtured towards successful relationships. (ibid)

Spindle Cells work, according to Goleman and Boyatzis (2008), as a social radar, “within one-twentieth of a second, our spindle cells ‘fire’ with information about how we feel about a person” (p. 4). In referring to leadership, they claim, produce an emotional response that an “attuned leader” will use to maximise leadership-followership effectiveness. (ibid) Thus, arguably, attunement applies to any interpersonal relationships.

Being attune, for Annie McKee, produces “emotional resonance” (Goleman, Boyatzis and McKee (2013) They claim that resonance is also a non-conscious process wherein spindle cells interact with the mirror neuron system making them more attuned with each other (Goleman et al., 2013).
Allman et al. (2010) argue that the position of these cells in the cingulate cortex, part of the limbic system, functions as a “receptive organ for the experiencing of emotion”, hence contributing to empathy. Other functions of the Spindle Cells and the limbic system refer to: “self-preservation and the preservation of the species” (MacLean, 1982, p. 577); related to physiologic homeostasis, “exerting a profound influence in both somatic and autonomic realms” (Smith, 1945, p. 242). Spindle Cells are related to different emotions such as resentment (Sanfey, Rilling, Aronson, Nystrom, & Cohen, 2003) deception (Spence et al., 2001) embarrassment (Berthoz, Armony, Blair, & Dolan, 2002), and guilt (Shin et al., 2000) as well as in empathy and suffering of others (Urry et al., 2004). Paul et al. (2007) suggest that conditions that affect these cells can produce “impoverished social relationships, suffering from social isolation and having interpersonal conflict both at home and at work due to misinterpretation of social cues” (p. 293). The function of SC, as presented by Goleman and Boyatzis (2008) and Allman et al. (2010) is so wide in its relationship with other brain circuitries that it deserves a dedicated study.

The attention given to the amygdala, mirror neurons, spindle cells highlight the importance of these non-conscious sub-cortical brain circuitries, anatomically part of the limbic systems relates to their function in (A) the processing of emotions, memory, decision making and empathy, and (B) their function of communicating, informing, the cognitive brain (bottom-up communication) for consciousness, insight or awareness of own emotions and behaviours as well as decoding, interpreting and managing the emotions and behaviour of others.

Evidence-based research on the application of the model is underway. It includes qualitative and quantitative research on generic use of the model as well as on specific situations such as refugees, autism, and leadership. This study may also provoke the interest of neuroscientists to further research and test the hypothesis presented by carrying neuro-anatomical functional studies.

10. Summary and discussion
This study has proposed the 3-Dimensional, Visualisation and Simulation Model as a way to manage the gap between intention and action. The gap, a common human experience, when present, negatively affects the self and those involved in the relationship may experience interpersonal discord, misunderstanding, resentment, and conflict. The disappointment that arises from this gap between intentions and the real resultant actions is partially due to how we judge our own actions and those of others. This is a brain process that spare us feelings of failure. This process is done by the neo-cortex that creates cognitive-bias, difficult to challenge rationally. The 3-DVSM, as proposed in this paper, seems to by-pass cognitive biases, rational, mental process by stimulating subcortical brain areas. The 3-DVSM seeks to elicit reflection and communication of an issue through visual and manipulation of 3-D figures mostly in silence. This study argues that non-verbal (sub-cortical) areas of the brain are stimulated bypassing cortical constructs. The neocortex then receives information from the sub-cortical networks eliciting new insights through bottom-up communication information.

The process seems to enhance awareness of our own emotion and that of others. This insight encourages a change in behaviours and new relational roles to play. The model has been professionally used in counselling and coaching but has not been empirically studied. The 3-DVSM has been used in classical counselling, and personal and business coaching, conflict resolution, language limitations due to migration or refugees and with people with psychological disorders including autism and educational disorders.

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Notes
1. Refer to letters in the references for a full description of Ponton and Garvan testimonies.
2. Refer to www.playoflife.com For a full transcription of the session.
3. This case study has used different names and situation to protect the identity of the client.
4. Symbolic representation is based on Rojas-Bermudez and Mayano (2012) Psychodramatic “Imagery technique” where a person in a drama “construct” a symbolic image of their perceptions, in silence, and reflect at looking at the image and in being part of it. (p. 147).
5. Role reversal is a Psychodramatic technique where a person in the drama takes the place of someone else allowing the person to “perceive” their emotions standing on the other persons shoes. (Moreno, 1953, p. 723).
6. Active Roles are Raimundo’s adaptation of Moreno’s (1953) and Clayton (1994) role theory. http://www.relationship.co/1192/2019/02/28/active-roles/
Moreno uses the term role to describe the behaviour or the action people play (Moreno, 1953 p. 75).
7. The First Step, is a Play of Life technique where the client find, literally, the first step towards achieving their ideal or desired behaviour.
8. See Ruth full case study.
9. For more on the topic, refer to (Aboitiz & Garcia, 1997; Bunting & Hayes, 2008; Caplan, 1994; Gibson, 1962; Monti & Osherson, 2011; Rutten, 2017; Whiskin, 2002).
10. A repetitive relational system is called by Moreno (1953) Cultural Conservate.

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