# The Clinical Use of Photography: A Single Case, Multi-method Study of the Therapeutic Process

Emanuela Saita[1][✉], Carmine Parrella[2], Federica Facchin[1], & Floriana Irtelli[1]

**Abstract.** This single case study aimed at evaluating the use of a photographic technique (i.e., Spectro Cards) within an eight-session clinical intervention based on the Brief, Intermittent Psychotherapy model developed by Nicholas Cummings (1990). We hypothesized that the use of photography may increase the patient's Referential Activity (RA), facilitating the linking process between the nonverbal experience and the verbal code. Linguistic analysis of the discursive production of a 36-year-old female patient was conducted according to two different strategies: Measurement of the RA according to the coding system developed by Wilma Bucci (1997a, 1997b), and textual-linguistic analysis supported by the software T-LAB. Our findings revealed that the use of Spectro Cards during each psychotherapeutic session yielded significant changes in the patient's language, in terms of greater RA values, richer discursive production, and a switch of language focus from physical pain to psychological pain.

**Keywords:** photography, spectro cards, psychotherapy, referential activity, textual-linguistic analysis

The present single case study aims at evaluating the use of photography within a clinical intervention based on the Brief Intermittent Psychotherapy Model (BIPM) developed by Nicholas Cummings (e.g., Cummings, 1990; Cummings & Sayama, 1995), whose goal is the resolution of the patient's current problem as well as support for the individual in facing critical events of the life cycle.

Although the standard BIPM does not involve the use of photographic stimuli, a set of photos (Spectro Cards) was administered within this specific clinical intervention. This photographic technique was developed by Ulla Halkola (Halkola, 2013a, 2013b; Halkola & Koffert, 2011). The very first version of Spectro Cards involved two card settings: (1) Spectro Visions, a set of 80 images representing objects, places, and animals, with different kinds of relationships between the figure and the background, the contained and the container, the light and the shadow, so that these photos show a sort of internal emotional tension among their elements that can be perceived and treated by the observer. This card setting is generally used to explore a wide range of topics and not necessarily painful or traumatic experiences; (2) Spectro Crises, a set of 50 cards characterized by extreme chromatic contrasts and symbolic representations of themes such as rupture, laceration, danger, and sexuality; for this reason, this card setting is more suitable to exploring emotions and feelings related to intense and even traumatic experiences. These two card series were both used in the current study.

The latest version of Spectro Cards involves five series of pictures (i.e., Spectro Visions and Spectro Crises, plus other three settings: Spectro Models, focused on the human figure, Spectro Graffiti, showing various graffiti, and Spectro Clouds, considering different kinds of clouds); these series might be suitable for clinical training and intervention with individuals and groups, and utilized to promote self-disclosure about personal experiences and emotional expression, as well as the exploration of different perspectives and the

[1] Faculty of Psychology, Catholic University of Milan, Italy.
[2] ASL2 Lucca, U.O. di Psicologia, Italy.
[✉] Correspondence concerning this article should be addressed to Emanuela Saita, Faculty of Psychology, Catholic University of Milan, Largo A. Gemelli 1, Milano, 20123 Italy. E-mail: emanuela.saita@unicatt.it

improvement of the quality of the therapeutic relationship.

The principal aim of using photos in psychotherapy is to reach a point where, in a confidential setting, photographs and photographing function as impulses to memory and to recognizing and expressing emotions, thus promoting the person's self-understanding (Halkola, 2013b). Specifically, Spectro Cards might help the person to: (S)earch essential emotions, (P)ortray experiences and memories, (E)xplore, analyze, and define, (C)reate something new, (T)ell stories, (R)ealize visions, and (O)bserve, learn, and find new perspectives (see http://www.spectrovisio.net/etusivu/engspectrocards.html).

Several studies suggested that the use of photography in clinical settings might help subjects to: (1) Relive and recall the experiences, memories, emotions and thoughts experienced during particular moments in their lives (Lindfors, 2009); (2) elaborate grief or depression after a loss (Berman, 1993); (3) compensate for communication problems and facilitate the therapeutic relationship (Berman, 1993). In this regard, the current study is based on the idea that the use of photographic stimuli might facilitate and increase the reintegration and the adaptive reconstruction of those emotional elements that have been defensively dissociated from the subjective experience.

This idea is supported by the Multiple Code Theory developed by Wilma Bucci (1988) that focuses on the relationship between emotional information regi-stered in a sensory, visceral, and motor form, and the translation process of this information into verbal form. Wilma Bucci's work is based on the *dual-code* theory (Paivio, 1986), which assumes the existence of two cognitive subsystems involved in information processing, one specialized for nonverbal items (i.e., imagery) and the other specialized for verbal entities (i.e., language).

According to Bucci's theory (1997a, 2000), there are three types of coding: (1) The subsymbolic code, which operates on a sensory, visceral, and kinesthetic level and involves the processing of stimuli such as the emotional tones in others' facial expressions, or internal somatic changes (Bucci 1997b; 1997c); the subsymbolic code involves parallel distributed processing with different levels of knowledge, which might be employed by the psychotherapist in choosing when and how to intervene during the therapeutic session; (2) the nonverbal symbolic code, regarding the processing of images that depict events and stories and can be consciously recalled; the imaginary system provides an intrinsic basis for organizing subsym-bolic processes and in this regard it is able to connect nonverbal experiences to language; (3) the verbal symbolic code, based on the use of language as structured according to a propositional logic and coded on multiple levels (i.e., phonemic, syntactic-morphologic, and semantic).

Although each code operates on the basis of specific rules, the three systems are interconnected through a process that links the different modes of nonverbal experience (i.e., emotional and imagery experience) to words. This bidirectional linking process is called Referential Activity (RA) and is considered as the basis of the clinical work. As regards the patient, more effective referential processes should be promoted to translate the subjective experience into verbal language; these changes in the quality of the referential processes are reflected by changes in the patient's language. As regards the therapist, referential processes are used in the opposite direction, in order to understand the patient's subjective experience on the basis of his/her verbalizations, so that the integration between the subsymbolic and the symbolic code is promoted with an increased RA.

According to Bucci's perspective, the measure of the RA—which is based on the analysis and the evaluation of the patient's discursive production (see the Method section of the present work)—allows to evaluate the extent to which the patient is able to connect his/her nonverbal experiences (e.g., emotions) to the verbal code, in order to be more directly in touch with his/her own affective and emotional experience. The scoring of the RA may be an effective strategy to evaluate change in psychotherapy in terms of outcomes (by comparing RA scores before and after the treatment) as well as the therapeutic process; in fact, the patient's aptitude for introspection, the activation of defensive mechanisms expressing resistance to therapy, as well as the confrontation with transferance and relational issues may be evaluated by measuring the RA at crucial moments of the psychotherapeutic work. In this regard, Wilma Bucci compares Luborsky's Core Conflictual Relational Theme with the RA, showing that high RA scores allow the relational episodes and the Core Conflictual Relational Theme in the patient's verbalization to be easily identified (e.g., Bucci, 1997a; Caviglia & De Coro, 2000; Luborsky, 1990; Luborsky & Crits-Christoph, 1998).

### Aim and Hypotheses

Although the Spectro Cards were developed in order to help individuals explore their deepest thoughts, feelings, and emotions, integrate their experiences into a coherent story, or create a new one with different perspectives and points of view—which means, in other words, engage more effective referential processes—no studies have yet investigated the effectiveness of this technique in clinical settings. The overall aim of the current single case study was to provide a preliminary contribution to the validation of this photographic technique as used in psychotherapy, with reference to Bucci's theory of the referential processes. Specifically, we hypothesized that the use of the Spectro Cards may enhance the RA by facilitating the linking process between the nonverbal experience and the verbal code, and thus help the patient explore his/her

*Table 1.*Means and Standard Deviations of the Five RA Scores by Moment and in the Whole Corpus

|  | Concreteness | | Specificity | | Clarity | | Imagination | | Global RA | |
|---|---|---|---|---|---|---|---|---|---|---|
|  | *M* | *DS* | *M* | *DS* | *M* | *DS* | *M* | *DS* | *M* | *DS* |
| Moment_1 | 4.9 | 2.1 | 4.2 | 2.1 | 4.7 | 2.4 | 4.4 | 2.1 | 4.6 | 2.1 |
| Moment_2 | 5.1 | 1.9 | 4.4 | 1.7 | 4.9 | 2.1 | 4.7 | 1.6 | 4.7 | 1.6 |
| Moment_3 | 5.9 | 1.7 | 5.1 | 1.7 | 5.3 | 1.8 | 5.4 | 1.6 | 5.4 | 1.5 |
| *Corpus* | 5.4 | 1.9 | 4.6 | 1.9 | 5.1 | 2.1 | 4.9 | 1.8 | 4.9 | 1.8 |

affects and emotions, and translate them into words.

## Method & Procedures

In order to achieve our goal, we analyzed the discursive production of a 36-year-old female patient, who consulted a psychotherapist in an Italian public service of clinical psychology, as she felt anxious and depressed because of the physical pain related to several pathologies (i.e., celiac disease, sight problems, and gynecological problems). According to the patient, these somatic symptoms, in their acute phases, were so intense and disabling that she could not perform her everyday activities and have a normal life.

The psychodiagnostic assessment conducted during the first sessions revealed the presence of a histrionic personality disorder with schizotypal traits according to the DSM-IV-TR criteria (APA, 2000). The patient accepted the therapist's proposal of integrating the standard, language based BIPM intervention (Cummings, 1990; Cummings & Sayama, 1995) with the use of Spectro Cards. The two-month clinical work involved eight sessions, as established by the public service; moreover, according to our specific research design, each session was divided into three parts (*Moments*): (1) *Moment 1*: The beginning of the session before the introduction of photography; during this first part of the session, the patient started talking and the therapist helped her identify a salient emotional topic that could be further explored using photography; (2) *Moment 2*: The introduction of the Spectro Cards and the patient's choice of the images. Specifically, the Spectro Visions were displayed on the table by the therapist; the patient was asked to pick from this first set of cards the pictures that she considered particularly associated to the topic identified in *Moment 1*; in case none of those images was appropriate, the patient could choose other photos from the second card setting, Spectro Crises. In both cases she was asked to explain and discuss her choices; (3) *Moment 3*: The psychological work conducted on the ba-

sis of the pictures chosen by the patient.

The eight sessions were audiotaped and transcribed on a single document (*corpus*). Two analytic strategies were adopted to analyze the linguistic production of the patient, on the basis of a within-method triangulation (Silverman, 2002): (1) The measurement of the RA according to the coding system developed by Wilma Bucci (Bucci, 1997a; Caviglia & De Coro, 2000); (2) textual-linguistic analysis supported by the software T-LAB (Lancia, 2004).

As regards the measurement of the RA, we expected increased scores for the four scales and the global RA score from Moment_1 to Moment_3 as an effect of the introduction of the Spectro Cards in Moment_2. For both the measurement of the RA and the textual-linguistic analysis with T-LAB, we decided not to test differences between the sessions because we were not investigating the effectiveness of the psychotherapy itself; moreover, a single case study wouldn't have allowed any statistical significance.

### The Measurement of the RA

According to Bucci's theory, the RA can be measured through the analysis of the qualities of language according to a system involving four ten-point scales that are relatively independent, but yet interrelated, from each other (Bucci, 1984, 2000; Bucci & Kabasakalian-McKay, 1992; Caviglia & De Coro, 2000): (1) *Concreteness* measures the level of perceptive and/or sensorial quality of the verbal language, that is the extent to which words refer to sensorial modes of the subjective experience, as well as to sensations, feelings, movement, and body experience; (2) *Specificity* assesses the use of details in describing situations, people, objects, places, and times, as well as thoughts and feelings, with regard to both abstract and concrete elements; (3) *Clarity* measures the sharpness and the comprehensibility of the language, its logical consequentiality in the organization of its different passages, including the moments of impasse; (4) *Imagina-*

*Table 2.* Correspondence analysis e test values for the variable moment

| Factor 1 – (63.1%) | | | | Factor 2 – (36.9%) | | | |
|---|---|---|---|---|---|---|---|
| Pole (−) | Test values | Pole (+) | Test values | Pole (−) | Test values | Pole (+) | Test values |
| *Mom_1* | −62.2294 | *Mom_3* | 55.2379 | *Mom_2* | −47.5899 | *Mom_3* | 22.0679 |
| Body part | −12.3679 | Psych.pain | 5.626 | Save | −11.7661 | Psych_pain | 3.1323 |
| Physical_ill | −11.0101 | *Mom_2* | 4.0762 | Choose | −9.8209 | Body_whole | 3.0849 |
| Hospital | −9.7482 | Photo | 3.7861 | Photo | −7.6053 | Physical_ill | 2.4286 |
| Food | −7.824 | Choose | 3.4931 | Describe | −7.778 | Defend | 2.4251 |
| Control | −7.9033 | Solitude | 3.4212 | Partner | −7.8522 | Succeed | 2.2464 |
| Fix | −6.0237 | Person | 3.335 | Start.again | −6.956 | Limit | 2.1481 |
| Endure | −5.0022 | Cry | 2.8513 | Forgive | −4.0978 | Physic._pain | 2.1382 |
| Physic.pain | −5.3509 | Love | 2.6109 | Talk | −4.7904 | *Mom_1* | 2.4185 |
| [...] | [...] | [...] | [...] | [...] | [...] | [...] | [...] |

tion refers to the intensity and the evocativeness of language in expressing the richness of images with their emotional resonance.

In order to measure the RA, the *corpus* was preliminary read and evaluated by three independent judges, who were asked to segment the text into Ideational Units (IUs); the IUs can be identified on the basis of discursive changes regarding the topic or the focus of the narration, the introduction of new scenes or characters, the emotional status, and the quality of the subjective experience. According to the Manual for the evaluation of the RA (for the Italian version see   De Coro & Caviglia, 2000), the presence of three   judges allows to achieve a good inter-rater reliability in the segmentation of the text into IUs.  Satisfactory reliability can be achieved by selecting segment boundaries on the basis of agreement between at least two of the three judges, and this IU selection criterion was adopted in the present study; *k* values were not calculated: according to Stinson, Milbrath, Reidbord, & Bucci (1994), "a kappa value cannot be derived as it is impossible to calculate $P_{expected}$ when there is no reliable value for the number of units being compared" (p. 44); the true number of IUs cannot be known a priori, so that an estimate must be used.

In this study, the final segmentation of the text involved 186 IUs.  After this preliminary work of text segmentation, each judge rated the IUs for each of the four RA scales and a global RA rate was also provided. The five final scores for each IU (Concreteness, Specificity, Clarity, Imagination, global RA) result from the mean of the scores assigned by the three judges. According to Wilma Bucci's model, higher RA scores (> 7) are related to a better contact of the person with his or her sensations and emotions.

The analysis of the RA was conducted by compa-

ring the three *Moments*. Specifically, multivariate analysis of variance (MANOVA) was used to compare the scores of the four RA scales for the three moments, having *Moment* as the independent variable, and the four RA scales as the dependent variables. Univariate analysis of variance (ANOVA) was run as regards the fifth score (i.e., global RA score), having *Moment* as the independent variable, and global RA as the dependent variable. Post-hoc analyses were performed using Bonferroni's test in order to further explore significant comparisons. Partial eta squared ($\eta^2_p$) values were calculated and reported to provide the effect size in case of statistical significance. Small, medium, and large effects are respectively associated with $\eta^2_p$ values of .01, .06 e .14.

**Textual Analysis with the Software T-LAB**

As regards the textual-linguistic analysis with T-LAB, the *corpus* was divided according to one independent variable, *Moment*, with its three modalities (*Moment_1*, *Moment_2*, *Moment_3*). Thus, three units of text (called Context Units [CUs]) were identified and coded as follows: **** *Moment_1* (or **** *Moment_2*; or **** *Moment_3*).  The analyses were conducted using all lemmas (1.452) with the minimum value of occurrence determined by the software (i.e., 4 in this particular case).

The two typologies of text segmentation (i.e., IUs for the RA measure and CUs for textual analysis with T-LAB) were then integrated, so that Moment_1 consisted of 62 IUs, Moment_2 consisted of 59 IUs, and Moment_3 consisted of 65 IUs.  As for the measurement of the RA, the linguistic analysis with the software T-LAB was guided by a comparative logic and aimed at exploring the patient's discursive changes through the analysis of her language on the basis of the independent variable *Moment*.
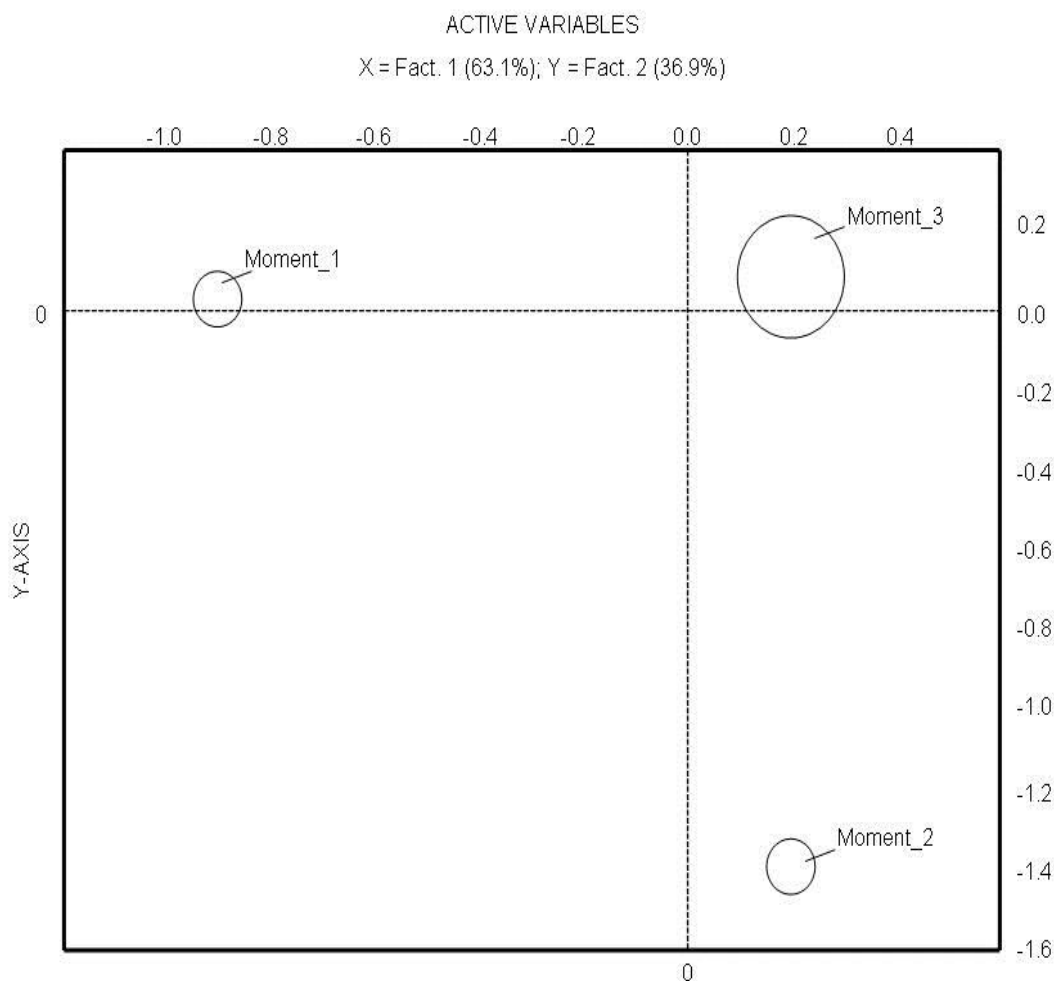
ACTIVE VARIABLES

X = Fact. 1 (63.1%); Y = Fact. 2 (36.9%)



*Figure 1.* Correspondence analysis.

We decided to use *correspondence analysis* (Lexical Units [i.e., lemmas] × Context Units), which allows the understanding of similarities and differences between different parts of the text (i.e., CUs). Specifically, correspondence analysis extracts new summary variables, or dimensions (i.e., the factors), which tell us about the relationships among units of text; in this regard, the statistical logic of correspondence analysis is that of traditional factor analysis, which tells us about the relationships among items in a scale. In geometric terms, each extracted factor sets up a spatial dimension whose center is the value 0 between the negative and positive endpoints. Thus, the text units that are placed on opposite ends of the factor are most different from each other. Statistical tests are provided to differentiate the poles of each factor (test values ≥ 1.96; $p < .05$); the higher the value, the more important the text unit is in defining the factor (see: Margola, Facchin, Molgora, & Revenson, 2010; Saita, Zanini, & Fenaroli, 2012).

As regards the correspondence analysis, we hypothesized that the three moments would significantly differ in the language used by the patient, with an increasing ability to disclose and explore her emotions and feelings, reflected by a more intense use of emoti-

onal words and, overall, of words related to psychological processes from Moment_1 to Moment_3.

## Results

### The Measure of the RA

Overall, the patient's language was characterized by low levels of RA for each of the four scales as well as for the global RA score (means and standard deviations are reported in Table 1).

Multivariate analysis of variance (MANOVA) showed significant effects for the independent variable *Moment*. Specifically, significant differences were found for three of the four RA scales: Concreteness ($F_{[2, 183]} = 6.62$; $p = .002$; $\eta^2_p = .07$), Specificity ($F_{[2, 183]} = 3.22$; $p = .04$; $\eta^2_p = .03$), and Imagination ($F_{[2, 183]} = 5.58$; $p = .004$; $\eta^2_p = .06$). As regards the global RA score, univariate analysis of variance (ANOVA) revealed a significant difference among the three moments ($F_{[2, 183]} = 4.76$; $p = .01$; $\eta^2_p = .05$). Overall, mean scores for each scale, as well as the global RA score, were higher in Moment_3, suggesting that the RA progressively increased within the same session. Post-hoc analyses performed with Bonferroni's test allowed

to further explore these comparisons, showing significant differences between Moment_1 and Moment_3 as regards Concreteness ($p = .005$; with Moment_1 < Moment_3), Imagination ($p = .005$; with Moment_1 < Moment_3), and the global RA score ($p = .005$; with Moment_1 < Moment_3); a significant difference between Moment_2 and Moment_3 was found only for Concreteness ($p = .01$; with Moment_2 < Moment_3).

### Textual Analysis with the Software T-LAB

As regards the textual analysis, two factors were extracted using the Correspondence analysis, explaining respectively 63.1% and 36.9% of the variance (the position of each moment in the factorial space is represented in Figure 1; words and variables for each factor with their test values are shown in Table 2). The first factor, as a latent dimension that organizes the relationships among the three levels of the independent variable *Moment*, can be interpreted and defined as "the patient's pain"; this factor showed a contrast between Moment_1, on the positive pole, and the other two moments, both on the negative pole. Overall, the language used in Moment_1, without considering the specific sessions, involved issues related to the body, physical pain and physical illness, that is, the symptoms complained of by the patient when she asked for help at the public service of clinical psychology. Words referring to affects and emotions, and psychological words in general, were completely absent; the patient's language was exclusively focused on the soma, the ill body not represented as a *gestalt*, or mirror image, but fragmented in parts (i.e., organs; see the lemma body_part). On the positive pole, we can notice a shift of the language from physical pain (at Moment_1) to psychological pain (at Moment_3), passing through Moment_2 with the introduction of the Spectro Cards.

The second factor highlighted the linguistic specificities of Moment_2 as compared to the other two moments. In other words, when the patient was asked to choose and comment the Spectro Cards, the issue of physical pain (i.e., the thematic focus of Moment_1) disappeared and the patient was no longer concentrating only on her body and its symptoms; in fact, she was able to introduce other issues, such as her relationship with her partner (see Table 2, Factor 2, negative pole, word *partner*). The issue of pain reappeared in Moment_3, though it was converted from physical pain to psychological pain.

### Discussion

The overall aim of the present single case study was to examine the effects of the use of a photographic technique (i.e., Spectro Cards) in a psychotherapeutic setting. On the basis of the Multiple Code Theory developed by Wilma Bucci and her concept of Referential

Activity (Bucci, 1997a, 1997b), we hypothesized that the clinical use of Spectro Cards may help the patient translate his/her affects and emotions into words by engaging in more effective referential processes.

In order to reach this goal, we examined the discursive production of a 36 year old woman who underwent an eight-session clinical intervention at an Italian public service of clinical psychology, where she asked for help because of her anxiety and depression related to somatic symptoms; the assessment indicated the presence of a personality disorder (i.e., histrionic personality disorder with schizotypal traits).

The clinical intervention was based on the BIPM developed by Nicholas Cummings (e.g., Cummings, 1990; Cummings & Sayama, 1995) and, according to our research design, involved the use of Spectro Cards, so that each session was divided into three moments: Moment_1 (i.e., the patient's discursive production before the introduction of the Spectro Cards), Moment_2 (i.e., the choice of the Spectro Cards and the patient's comments), and Moment_3 (i.e., the patient's discursive production after the choice of the Spectro Cards). The eight sessions were audiotaped and transcribed and the text was analyzed using two analytic strategies: The measure of the RA and the textual-linguistic analysis using the software T-LAB. In this regard, we adopted a within-method triangulation (i.e., using different operative definitions to explore the same data; e.g., Denzin & Lincoln, 2000, 2005), as it guarantees the neutrality and the objectivity of the analyses and makes the results more *believable* (Seale, 1999). Moreover, methodological triangulation provides an opportunity for the clinical researcher to further explore new aspects and specific dimensions of complex phenomena, such as the linking process between the subsymbolic code and the symbolic verbal code. This kind of triangulation allowed us to describe a trend (i.e., increased RA scores from Moment_1 to Moment_3) and provided a meaning for it, suggesting that photography might be considered a clinical technique that helps the patient to shift her language focus and promotes more active referential processes (Bucci & Maskit, 2006; Bucci, Maskit, & Murphy, 2009). Linguistic analysis conducted with T-LAB helped us understand the nature of this improvement; overall, the first factor extracted by the Correspondence analysis highlighted not only the thematic change of the patient's language from Moment_1 to Moment_3, but also the presence of a split between the somatic and the psychic dimension that could not be integrated by the patient in one discourse. The second factor, although less significant than the first one as regards the explained percentage of variance, contrasted Moment_2 on the negative pole to Moment_3 and Moment_1 on the positive pole, meaning that not only these two moments, but also Moment_2 showed its own linguistic specificities.

If Moment_1 and Moment_3 were both focused on the topic of pain (respectively physical and psycholo-

gical pain), Moment_2 was more characterized by a progressive opening of the speech towards a relational dimension (as shown by these lemmas: partner, i.e., the patient's boyfriend, forgive, talk). Thus, the use of the Spectro Cards seemed to facilitate more complex linking processes between the nonverbal and the verbal systems that could not be spontaneously engaged by the patient; no longer focused only on the somatic level, the patient was more capable of exploring her subjective experience in terms of feelings and emotions after the introduction of the images, although her elaboration on a verbal level remained partial and incomplete (as shown by the overall low levels of RA). We can hypothesize that Moment_2 may represent a *turning point* that *moved forward* the patient's verbal elaboration, and thus her language. According to Milgram (1977) and Krauss and Fryrear (1983), photography is able to provoke and not only to recall memories and feelings.

## Conclusions

Our research provides an example of how the human mind does not function using only a verbal code. The theories of mind have been extensively treated by the scientific literature, but only a few studies have investigated the role of images (Casadio, 2004). In particular, they are fundamental in the communication of emotional experiences, that are often characterized by elements that the person is not able to translate into words. According to the Multiple Code theory developed by Bucci (1999), in these situations the mind uses images, narrations, or body expression (e.g., gestures, movements) to process information.

The current analyses provide support to the idea that the use of Spectro Cards in clinical practice may activate a different and more immediate language, with a stronger symbolic and emotional value, and thus promote clinical improvement. Any kind of photography is able to transmit the concrete and objective reality of the content that is represented (denotative level); however, it engages other symbolic and subjective meanings, given that images are able to stimulate new associations and even very intense emotional reactions (connotative level).

Despite its innovative value, this research shows several limitations. First of all, this single case study provides just an example; in this regard, it is not possible to generalize the findings of this work to the clinical use of photography in general. Our analyses should be replicated on a larger clinical sample including different diagnoses in order to test the effectiveness of this technique. Moreover, because our overall aim was to examine the impact of the introduction of Spectro Cards at crucial moments of each session and not to evaluate the effectiveness of the whole clinical intervention, we did not include the variable *Session* into our analyses. Future studies should test the differences between traditional, language based psychotherapy

and psychological interventions involving the use of Spectro Cards in a more systematic fashion, in order to provide further evidence to the effectiveness of this technique in clinical settings.

## References

American Psychiatric Association (2000). *Diagnostic and Statistical Manual of Mental Disorders*, 4th ed., text revision (DSM-IV-TR). Washington, DC: Author.

Berman, L. (1993). *Beyond the smile: The therapeutic use of the photograph.* London: Routledge.

Bucci, W. (1984). Linking words and things: Basic processes and individual variation. *Cognition, 17*(2), 137–135.

Bucci, W. (1988). Converging evidence for emotional structures: Theory and method. In H. Dahl, H. Kächele, & H. Thomä (Eds.), *Psychoanalytic process research strategies* (pp. 29–49). Berlin-Heidelberg: Springer, Verlag.

Bucci, W. (1997a). Lo sviluppo del significato delle emozioni nelle libere associazioni: una teoria del codice multiplo [The development of emotional meaning in free association: A multiple code theory]. *Setting, 4,* 61–106.

Bucci, W. (1997b). *Psychoanalysis and cognitive science: a multiple code theory.* New York-London: The Guilford Press.

Bucci, W. (1997c). Symptoms and symbols: a multiple code theory of somatisation. *Psychoanalytic Inquiry, 17,* 151–172.

Bucci, W. (1999). *Psicoanalisi e scienza cognitiva* [Psychoanalysis and cognitive science]. Roma: Giovanni Fioriti Editore.

Bucci, W. (2000). The need for a psychoanalytic psychology in the cognitive science field. *Psychoanalytic Psychology, 17,* 203–224.

Bucci, W., & Kabasakalian-McKay R.(1992). *Instructions for scoring Referential Activity (RA) in transcripts of spoken narrative texts.* Germany, Ulm: Ulmer Textbank.

Bucci, W., & Maskit, B. (2006). A weighted dictionary for Referential Activity. In J. G. Shanahan, Y. Qu, & J. Wiebe (Eds.), *Computing attitude and affect in text* (pp. 49-60). Dordrecht, The Netherlands: Springer.

Bucci, W., Maskit, B. & Murphy, S. (2009, May). *Measures of referential activity as indicators of episodic memory in different age groups and time contexts.* Paper presented at the Association for Psychological Science Annual Convention, San Francisco, California.

Casadio, L. (Ed.) (2004). *Le immagini della mente: per una psicoanalisi del cinema, dell'arte e della letteratura* [Images of the mind: Towards a psychonalysis of cinema, art, and literature]. Milano: Franco Angeli.

Caviglia, G., & De Coro, A. (2000). Ricerca empirica e cambiamento terapeutico: lo studio dell'attività referenziale fra psicoanalisi e psicologia cognitiva [Empirical research and therapeutic change: Studying referential activity between psychoanalysis and cognitive psychology]. In A. De Coro, & G. Caviglia (Eds.), *La valutazione dell'attività referenziale* [Italian referential activity assessment] (pp.7–38). Roma: Kappa.

Cummings, N. (1990). Brief intermittent psychotherapy throughout the life cycle. In J. K. Zeig, & S. G. Gilligan (Eds.), *Brief therapy: Myths, methods, and metaphors* (pp.169–184). New York: Brunner/Mazel.

Cummings, N., & Sayama M. (Eds.) (1995). *Focused Psychotherapy, A casebook of brief intermittent psychotherapy throughout the life cycle.* New York: Brunner/Mazel.

De Coro, A., & Caviglia, G. (Eds.) (2000). *La valutazione dell'Attività Referenziale* [Italian referential activity assessment]. Roma: Kappa.

Denzin, N. K., & Lincoln Y., S. (Eds.) (2000). *Handbook of qualitative research.* (2nd ed.). California: Sage, Thousand

Oaks.

Denzin, N. K, Lincoln Y., S. (Eds.) (2005). *The SAGE handbook of qualitative research*. (3rd ed.). California: Sage, Thousand Oaks.

Halkola, U. (2013a). A photograph as a therapeutic experience. In: D. Loewenthal (Ed.). *Phototherapy and therapeutic photography in a digital age*. London: Routledge

Halkola, U. (2013b). *Spectro Cards*. Retrieved from http://www.spectrovisio.net/etusivu/index.php/engspectrocards.

Halkola, U., & Koffert, T. (2011). The many stories of being. In: U. Halkola, T. Koffert, L. Koulu, M. Krappala, D. Loewenthal, C. Parrella. & P. Pehunen (Eds.). *Learning and healing with phototherapy* (pp.40–54). Turku:    Brahea Centre for Training and Development.

Krauss, D. A., & Fryrear, J. L. (Eds.). (1983). *Phototherapy in mental health*. Springfield, IL: Charles C. Thomas.

Lancia, F. (Ed.) (2004). *Introduzione all'uso di T-LAB* [The use of T-LAB]. Milano: Franco Angeli.

Lindfors, B. (2009). Written in the body. Working through traumatic memories by means of re-enactment phototherapy. *European Journal of Psychotherapy & Counselling, 11*, 397–408.

Luborsky, L. (1990). A guide to the CCRT method in L. Luborsky & P. Crits-Christoph (Eds.). (1990). *Understanding transference: the Core Conflictual Relationship Theme method* (pp.15–42). New York: Basic Books.

Luborsky, L., & Crits-Christoph, P. (1998). Changes in CCRT pervasiviness during Psychotherapy in L. Luborsky, & P.

Crits-Christoph (Eds.) (1990). *Understanding transference: The Core Conflictual Relationship Theme method* (2nd ed) (pp.151–163). Washington D.C. American Psychological Association Books.

Margola, D., Facchin, F., Molgora, S., & Revenson, T. A. (2010). Cognitive and emotional processing through writing among adolescents who experienced the death of a classmate. *Psychological Trauma: Theory, Research, Practice, and Policy, 2*, 250–260.

Milgram, S. (1977). The image-freezing machine. *Psychology Today, 14*, 7–12.

Paivio, A. (Ed.) (1986). *Mental representations: A dual-coding approach*. New York: Oxford University Press.

Saita E., Zanini S.C., & Fenaroli V. (2012). Il trapianto di organo da vivente: le motivazioni a donare e a ricevere un rene [Organ transplant from living donors: Why to donate and receive a kidney]. *Ricerche di Psicologia, 4*, 693–711

Seale, C. (Ed.) (1999). *The quality of qualitative research*. London: Sage.

Silverman, D. (Ed.) (2002). *Come fare ricerca qualitativa* [Doing qualitative research]. Roma: Carocci.

Stinson, C., Milbrath, C., Reidbord, S., & Bucci, W. (1994). Thematic segmentation of psychotherapy transcripts for convergent analyses. *Psychotherapy: Theory, Research, Practice Training, 31*(1), 36–48.