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### Music and autobiographical writing: individual story-telling with the methodology of musical autobiography

di *Maria Rosaria Stollo*

All'interno di una cornice di tipo narrativa, l'approccio autobiografico costituisce una metodologia efficace al servizio della trasformazione e della rielaborazione di ogni momento della storia di vita e della storia educativa delle persone.

Il dispositivo autobiografico si presta come strumento nel quale gli individui possono riscoprire e reinterpretare le loro storie di vita, richiamando alla memoria episodi ed esperienze che sono parte della loro identità. Seguendo tale impostazione, ne deriva l'utilità della tecnica autobiografica nell'aiutare lo sviluppo di autoconsapevolezza, di autoformazione e di continua scoperta dei propri pensieri e sentimenti interni. La musica può avere in questo senso un forte impatto sulle persone, soprattutto in termini di affetti, emozioni, memorie episodiche e autobiografiche, immagini mentali. Nella proposta qui presentata, si intende descrivere le potenzialità educative e narrative dello strumento dell'autobiografia musicale (Stollo, 2014; Stollo, Romano, 2015), che si distingue dall'autobiografia classica caratterizzandosi come un dispositivo narrativo in cui la narrazione sia elicitata dall'ascolto di brani e tracce musicali precedentemente selezionate. Per brevità, si descriveranno i primi due studi che sono stati condotti sull'autobiografia musicale, utilizzando come strumento narrativo ed educativo all'interno di contesti formali accademici.

Nel primo studio condotto, 25 studenti della laurea magistrale in Psicologia sono stati invitati a caricare più di cento tracce musicali sul loro I-pod, selezionando le canzoni che avevano accompagnato la loro esperienza di vita. Gli studenti ascoltavano tali tracce in modalità random in classe durante la fase scrittoria, con la consegna di scrivere tutti i ricordi e le impressioni che venivano alla mente ascoltando questi brani. Al termine della sessione di scrittura, i partecipanti venivano invitati a scrivere un diario di bordo dell'esperienza in cui raccontare la propria percezione e le impressioni soggettive. I diari di bordo sono stati analizzati con analisi fenomenologica. Nel secondo studio più di cento studenti sono stati invitati a scrivere i ricordi che tornavano alla memoria durante l'ascolto dei brani selezionati a casa. Al termine dell'esperienza, gli studenti dovevano compilare un diario di bordo, una griglia di domande metacognitiva e un questionario. L'uso di metodi quali-quantitativi di indagine è stato finalizzato alla corroborazione delle ipotesi di ricerca formulate a partire dai risultati del primo studio. I risultati confermano che l'autobiografia musicale è un dispositivo di retrospettione, autoriflessione e apprendimento auto-diretto, anche in contesti educativi formali. Le sue peculiarità sono differenti dal dispositivo autobiografico tradizionale, grazie alla potenza dello stimolo musicale in grado di attivare ricordi involontari oltre che ricordi intenzionalmente rievocati, e dall'autobiografia musicale tradizionale, in cui la musica funge solo da accompagnamento della scrittura autobiografica. Con il metodo dell'autobiografia musicale qui descritta, la musica costituisce lo stimolo e la traccia su cui si innesta la narrazione autobiografica.

Within the narrative model, the autobiographical approach represents an effective way of helping people to transform and process each step of their life and of their educational paths. In it autobiography becomes a tool through which individuals' life histories can be discovered, explored and interpreted by thinking about their life history and recalling episodes and experiences that are part of their identity. From this perspective, an autobiography represents a very effective technique in aiding the development of self-awareness, self-training and continue discovery of one's innermost feelings. Music can have a strong psychological effect on people, especially in terms of affect, autobiographical memories, and also mental imagery. The experience described in this proposal, on the assumption that there is a close connection between music and inner thought, is aimed at showing the potential of a device, musical autobiography, which is and acts of writing an autobiography listening songs previously selected. The contribution would like to describe the pilot study and the second study of the research about musical autobiography as educational tool, both for formal contexts.

In the first study, 25 graduate students in Psychology were invited to upload a list of 100 musical tracks on their I-pod and listen to those in a classroom while writing about any memories recalled during this task. After listening to the music, participants were asked to respond to an administered questionnaire and write in a logbook. In the second study, there were than 100 participants, and the tools for understanding participants' experience were the logbooks, the metacognitive grid and questionnaires. Results indicate that musical autobiographical writing is a device of retrospection, self-

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reflection and self-directed learning. The use of multiple methods of comparative analysis of the experience, such as the logbooks, the metacognitive grid and questionnaires, especially in the second study, corroborate the answer to the research questions, as well as to implement the capacity for critical reflection on students' personal and dispositional knowledge, values and meanings.

The musical autobiography here described is different from the traditional autobiography, where people are asked to tell about their life-story, thanks to the impact of music on involuntary memories. It is also different from the traditional music autobiography because in that case music just was an accompaniment for autobiographical story-telling, while here it is the main stimulus starting from which memories are recovered and come to mind.

### 1. Introduction

The introduction of the musical autobiography into the pedagogic scene can be dated back in 1994, when during the "Interview about pedagogy of music" held in Assisi (Demetrio & Disoteco, 1995), assuming that most of subjects' experiences is accompanied by listening to music, it was introduced a "musical clove" in the traditional autobiographical paths now widely accepted in formal and informal education, particularly in the field of adult education.

It is dated back to 1999 the adoption of the *musical autobiography* (Disoteco, 1999; Capobianco, 2010) and of the *autobiographical interview in the musical key*, recognizing the deep connection between musical and cognitive identity: the close link between attitudes, tastes, passions and music behavior and personal autobiography is often relegated to the field of passions, musical tastes, cultural interests while it is rather often "manifestation of attitudes and cognitive changes, needs for searching for themselves and for the relationship with the other, the desire for knowledge and discovery. We mean that as well as the different practices, styles, genres refer to different behaviors and different music, so the approach to some music or a certain way of making music responds to the needs and trends of individual research" (Disoteco & Piatti, 2002, pp. 47-48). Leichter (1997; 2001) supports this premise documenting specifically the relevance of family memories that are often recalled in the form of stories and narratives. In several of her studies she emphasizes how through stories individuals make meaning of the everyday life, thus learning about themselves, others and the world (Leichter, 2001). Stories are fundamental form of cognition, stories give a focus and a sequential form to family experiences (Leichter, 1997), and transmit ideas from one generation to another. In the book *Squaring the Family Circle* (Leichter, 1993), she endorses this by saying, "anthropologists have argued that stories are rudimentary in all thinking; they have didactic potential and power to crystalize events" (p. 3). As it can be inferred, stories are inextricably intertwined with memories.

If, therefore, the autobiography presents a significant component of reinterpretation and selective memories always appear as filtered subjectively, it is assumed that listening to music can be a cue (clue) for the emergence of involuntary, spontaneous and implicit memory, released from the rational selection made by the individuals to choose what to include in their autobiography, allowing, on one hand, to reflect retrospectively on some dynamics of autobiographical narrative, for the other to experience the intimate connection among sound/body/personal story.

According to our previous interests of research (Strollo, 2015), we might propose a neurophenomenologic approach for studying the musical impact on the individual story-telling. The *enactive* approach considers the perceived and who perceives as two inseparable aspects of each experience (and so also of the musical experience) because in "this transaction between the subject of sensation and the sensible object it cannot be held that one acts while the other suffers the action, or that one confers significance on the other. Apart from the proof of my eye or my hand, and before my body synchronises with it, the sensible is nothing but a vague beckoning" (Merleau-Ponty, 1962, p. 214). *Enactivism* shares indeed many aspects of its characterisation with the philosophical movement called *phenomenology*. The enactive notion of *sense-making* can be derived from the phenomenological notion of *intentionality*.

A genuine investigation of music, therefore, cannot use a merely analytical approach that does not take into consideration the subject, nor a cognitivist perspective, which maybe tries to explain our musical behaviour in light of aprioristically defined mental processes. As emerged, after all, these standpoints share the same assumption that music and mind are two distinct categories and therefore require two different methodologies to be investigated. In contrast to this view, enactivism is focused on the codetermination between embodied agents and their environment, ruling out any possible distinction between mind and matter, brain and body, internal and external, subjective and objective. Pelinski (2005) states that intentionality "is fundamental for a musical aesthetics conceived from a phenomenological perspective: a piece of music doesn't concretize its potentialities as a meaningful musical event if it doesn't become the object of an intentional perception". So, given these considerations we could propose a first characterisation of musical intentionality by saying that musical intentionality comprehends all those intentional acts of my consciousness directed towards a musical object, which receives its configuration through its intentional constitution. In other words, through an intentional relation, a subject's musical cognition constitutes the musical object being intentionally directed towards it. The most important feature of human intentionality, therefore, is the ability of consciousness to give sense to the musical track, through its intentional acts of meaning-making.

So, in the autobiographical narrative field, we may suggest to use the tool of the musical autobiography, in which people's body acts as a sounding board of memory and emotions aroused by listening. In this narrative device, the role of memory in the reconstruction of autobiographical memory (both explicit and implicit memories), on one hand, and the role of music on cognitive processes, on the other, are connected

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and intertwined. In the last few years many studies focused on the neural aspects of the sensory-motor integration embodied by the mirror mechanism, stressing in particular the cross-modal plasticity of the motor cortex through the development of musical expertise: among others, Bangert and colleagues (2006) showed with fMRI an activation of the left premotor regions during passive listening tasks for musicians, compared to non-musicians, suggesting implicitly that a musical vocabulary of acts could develop through musical training, underlying our musical understanding (for a TMS study see D'Ausilio et al., 2006).

Lahav and collaborators (2007) explored the brain areas recruited when musically naïve people listened to sounds associated with sequences of actions they learned during a prerecording training period, finding that "music one knows how to play (even if only recently learned) may be strongly associated with the corresponding elements of individual's motor repertoire and might activate an audio-motor network in human brain" (Lahav et al., 2007, p. 309). Haslinger and colleagues (2005), moreover, found that the simple observation of meaningful musical acts elicits a stronger activation for musicians in the fronto-parietal-temporal network when compared to non-musicians, reflecting "the operation of a mirror-matching system" (Haslinger et al., 2005, p. 289). A stronger activity for musicians' primary motor cortex has also been reported during a passive music listening task in a study by Haueisen and Knosche (2001), suggesting how the auditory-motor mapping implemented by the mirror-neurons activities requires an appropriate repertoire of acts to be successfully fulfilled. Those studies corroborate the proposal of using the music as a device for autobiographical story-telling, considering that autobiography and music are related both to the emotional sphere and may refine metacognitive skills and emotional competencies, activating different cerebral regions.

Moreover, in an embedded perspective, where we may overcome the dualistic cartesian distinction between mind and body, the nexus sound/body is the first road for the relation between man and environment, regardless of the original socio-cultural context, regardless of age, synthesizing the natural transaction with whom the sound is the outcome of the encounter between human body, biologically programmed to perceive what surrounds us in various forms, and the environment, of which we perceive the vibrant sway telling us that there is something outside of us. Human relationship with the world draws out from sound and touch: "there are ancient fluctuations in the amniotic fluid, this total contact-attachment, this swing of a body-skin to the rhythm of mother's heart that are important for us. Already by that time, all of us were 'touched' and enriched with an epidermal sensitivity that allowed us to form and to create what we might today call our true skin memory. A skin that, again from that time, exists and mingles with the sound-musical context lived within this maternal hypersensitive involucre. It can therefore be argued that the connection between the skin and the sound-music dimension is perhaps the oldest we had lived and therefore more original than our sensitive evolution had ever known" (Spaccacozchi, 2004, pp. 11-12). Musicality is inherently rooted in human nature. It is ingrained in the irreversible flow of time that unfolds through hours, days and seasons; in the biological rhythms of our bodies; in the dynamic impulses of living, moving, thinking and communicating. As human beings, we express our innate musicality through the vitality of our bodies' movements or actions— walking, stepping, jumping, swinging, throwing, stretching or lifting—and through the inflections of our voices—the sequences of speech and songs that give sounding shapes to personal emotions, thoughts or feelings (Stern, 2010; Trevarthen, 2000).

From infancy to old age and across different cultures, music lies at the core of human relationships, generating interactions animated by feelings of sympathetic connection and relatedness (Dissanayake, 2000a; Trevarthen, 2000). For mothers and infants, this connectedness is evident in their exchanges of vocal and facial expressions and in their bodily gestures. Infants instinctively seek interactions and initiate musical conversations with people around them; to survive, they need responsiveness from others from the moment of birth (Dissanayake, 2000a; 2000b; Trevarthen, 2000; Trevarthen & Malloch, 2002). Eager to be attuned to the world, they call forth the musicality of mothers and caregivers, who naturally and universally respond by rocking them, singing lullabies, and speaking with a melodic inflection in their voices.

Moving up on the scale of aesthetic awareness, Dissanayake (2000a) expands this view, defining such sympathetic and emotional exchanges as the ultimate expression of mutuality. Interpreted as "recognizing oneself in the actions and expressions of another" (Custodero, 2005, p. 4), for Dissanayake (2000a) the essence of musicality lies in reciprocity, in the shared mother-infant need for conjoinment and emotional bonding. Such reciprocity and ability to be responsive to each other also manifests infants' (and, more in general, human) innate capacity for mutuality and for creating "ties of intimacy" with those who surround them (Custodero, 2005, p.20). During infancy, through lullabies, nursery rhymes and spontaneous musical interactions, the earliest sources of musical stimulation (Papousek, 1996), infants and caregivers are brought closer to each other, are able to converse emotionally and share meaningful moments of emotional, intimate communion that generate affiliative bonds (Malloch & Trevarthen, 2002; Ilari, 2009; Cali, 2015). In toddlerhood and during the preschool years, interactive musical experiences nourish parents and children's emotional strength to prepare for the intensity of contemporary life (Custodero, 2005; Cali, 2015). At the same time, the soothing and engrossing qualities of a mother's singing becomes a means for stimulating language development (Cali, 2015).

Attuned and drawn to each other by their shared musicality, parents and children converse emotionally and share meaningful time together (Trevarthen & Malloch, 2002, p. 11), thus generating and participating in what Trevarthen and Malloch defined as "communicative musicality" (Malloch & Trevarthen, 2002; 2009). Framed through the three dimensions of pulse, quality and narrative, communicative musicality enables parents and children to express and communicate to one another their joint desire for

companionship, for sharing their creativity, for "being with" (Custodero, 2005), broadening and deepening their experience of togetherness.

Anecdotal reports of musical memories reveal that adults' musical memories related to childhood usually involve significant others (parents, grandparents, siblings or close relatives). It also provides evidence that middle childhood is still a time when experiences of mutuality and closeness between children and family members may occur in meaningful ways (Dissanayake, 2000a; Gabriellson, 2011; Siegel, 2012). The profundity of such experiences is captured in the musical memory of a middle-aged woman as reported by Gabriellson (2011). As she recalls her dad's improvisation of a little story to the overture of *The Thieving Magpie* by Rossini (Gabriellson, 2011, p. 15), feelings of security, intimacy and joyful solace between her as young child and her dad are vividly brought back to mind. The legacy of this memory lies in the love for music that her dad passed on to her through this experience, and that followed her throughout her life (Gabriellson, 2011, p. 15).

Neuroscience research on memory and emotions supports this premise, shedding light on the basic brain functions and memory mechanism. Recalling past events implies that the brain re-activates neural net profiles similar to the one activated during the experience (Siegel, 2012). Influenced by internal and external factors—such as current emotions, the situational judgement and listeners' expectations—the process of remembering consists in the construction of new neural network profiles, in which the associational linkages activated during the recalled experience and elements of interconnected memories are bound together (Siegel, 2012).

Neuroscience studies assert that "memory and development are overlapping processes" and that "the experience shapes the developing structure of the brain, altering the ways in which the brain may respond to future experiences" (Siegel & Hartzell, 2003, p. 34). From a developmental perspective, children's autobiographical memory emerges gradually throughout the preschool years when parents guide and scaffold children's early reminiscences, providing the content and the structures for their internalization of the experiences (Cali, 2015).

In sum, across the lifespan, memories are evocative re-living of past experiences that, inextricably entangled with present thoughts and feelings, reveal how people make sense of the world, interpret their daily happenings and prepare for the unpredictability of the future.

Our story as human beings is punctuated by a soundtrack that becomes part of the memory, a memory of the body and that allows us to resurface through listening to the memories and emotions associated with it. A soundtrack which is both "natural" and "artificial" because the music is not only a human production, but a creation of nature that humans copy, recreate: "the skin can be thought as a real diffused ear, as more active as in close connection with the other senses. The fruition of music is and intersensorial experience, just think about when we listen to music with closed eyes, to feel closer to the sound source, eliminating the binding spatial that visual perception usually imposes. The simple act of closing our eyes is not just an action that tends to amplify auditory perception. With closed eyes it would grow even tactile perception" (Spaccacozchi, 2004, p. 27).

Starting from the assumption that there is a strong link between music and inner thought, the experience we refer to is not dedicated to writing autobiographies in which participants associate music to an event, but to writing an autobiography listening songs previously selected during the act of writing.

Thus, there is a peculiar difference between "traditional" musical autobiography and musical autobiography proposed here, and it is that participants choose the songs to listen to while they are writing.

Well, in the education of educators and teachers it is used to build pathways that make them aware of the potential of autobiographical devices. This awareness can pass through the experience lived in first person of the constraints and of the possibilities of narrative strategies, it is decided to adopt the musical autobiography in the education of educators as a privileged instrument for:

- Experimenting the experience of the autobiographical writing as a device for retrospection, self-reflection and self-directed learning.
- Understanding the difference between voluntary and intentional writing and spontaneous writing.
- Grasping through the experience the elements of self-censorship and self-control.
- Experimenting the role of music on cognitive processes and in particular the association among music/emotions/experiences.

In the experience we would like to tell about below, participants were asked to:

1. Put in an I-pod music that they remember to have heard in the course of their life;
2. Listen to tracks and write the memories evoked by them or draw freely;
3. Complete the meta-cognitive grid of questions;
4. Complete the questionnaire;
5. Join the discussion in the classroom;
6. Attend a lecture on the relationship between music and autobiography with theoretical framework and references for the experience lived.

One of the reason why people are asked to reflect on the process of writing and on the mechanisms of Self-censorship and self-control is that those are not always the results of conscious processes. Yet the traditional autobiography "is false consciousness of our desire to appear, thanks to a writing that we have indeed betrayed or wasted. That's because its ancestral task is to submit proof of 'misleading and inevitable manipulation' of what we think we are. The repeated questioning of the me that I really wanted to describe, define, deconstruct and reconstruct once and for all: it instead will continue to move away as we deem in our ingenuity to be able to capture it with the pen or by any other tool" (Demetrio, 2010, p. 47).

In musical autobiography there's no theoretical indication before listening to music, but participants retrospectively reflect on the lived experience in the logbooks they are

invited to write (Strollo, 2014) and with the questionnaire administered. The narrative instrument of the logbooks allows to phenomenologically approach to what happens in the course of the musical autobiography (Strollo, Romano, 2015), facilitating metacognitive reflection and questioning on students' memory processes, on music influence on their body, their cognitive and emotional processes.

Cady's research show that music can be a stimulus to evoke autobiographical memories: the music can increase or induce emotions in listeners (Cady, Harris, Knappenberger, 2008), to the extent to improving the ability of a clue to elicit memories. When an autobiographical memory is recalled, the person may feel emotions similar to those heard when the event was happening. The music has this emotional appeal because human organisms are aroused more by music than by a conscious thought or by the combination with other stimuli. Furthermore, most of the individuals brought their music listening extensively and throughout the course of their life daily or during significant events (Cady, Harris, Knappenberger, 2008, p. 160).

With musical autobiography the technique of verbal stimuli peculiar to many autobiographical laboratories (Holland & Kensinger, 2010, p. 90) are replaced by musical stimuli, chosen not by the facilitator of the workshops with the musical autobiography but by the subject himself/herself. The task is to play random music tracks on the I-pod and to write first memories that came into mind. The white page becomes transitional space from mental to written one. Mental images are evoked by the music connected to the memory and possible flashforwards, which for their evanescence and lack of communication pose a lot of difficulty in research on auditory perception, often based on very short fragments.

The belief that music is a powerful memory device is widespread. For example, preliterate societies often use music to convey the transmission of important cultural information (Rubin, 1997), and the advertising companies take advantage of music by assuming that music will strengthen memory of a product and its attributes. People often say they remember the words and the melody of a song long forgotten after having listened to a brief excerpt on the radio (Schulkind, Hennis & Rubin, 1999, p. 948).

Despite being a universal human trait, the music has rarely been studied as a biological function and as a cultural construction. In fact "the music seems to transcend time, place and culture" (Peretz, 2006, p. 2). It is a natural element such as language, even if its utility is less clear. In reality, our ability to listen and produce music depends on specific modules, so neurologically healthy individuals seem to have musical ability from birth.

The modularity theory highlights that listening to music is an act functionally distributed. Emotion is part of listening music, but that does not mean that the emotional evaluation is predetermined, while it appears modulated by experience and familiarity. There are also physiological emotional responses, which occur immediately through an "automatic assessment that involves involuntary changes of physiological and behavioral type. These biological correlates have been preserved during evolution because music can have the function of attracting a partner or of promoting group cohesion, as well as of educating emotions and senses" (Peretz, 2006, p. 24).

From a physiological viewpoint, also, music plays a role on the modulation of metabolic responses, on sympathetic nervous system and on immune system. Patients treated with music stimulation before, during and immediately after surgery required less sedation and showed a reduction in peri-operative and post-operative anxiety (Yamasaki et al., 2012, p. 1076).

Music belongs to the symbolic area of pleasure, is an "instant gratification" and sublimates person's emotional needs: "pop music, in particular, allows the discovery, or the restoring of maternal fusional instance, or so-called reinfestation, which corresponds to a regressive ecstasy to the dream of a fusional whole that the child feels in feeling content, emotionally and mentally, by the arms and the mind of his mother" (Stramaglia, 2012, p. 95).

Through the musical autobiography device (Strollo & Romano, 2015) it is established, then, a dialogue with ourselves, through the story of our own memories that constitute a knowledge embodied in close connection with our own sound identity and story: "listening to a song can project the listener into an 'other' dimension than the current one [...]. This is the same dynamism for which a melancholy song evokes memories of anguish experienced, or a song linked to a difficult period becomes, in time, unwelcome for listeners ear" (Stramaglia, 2012, p. 101).

It emerges a memory embodied, involving corporeality in its entirety: we listen not only through hearing, but through the whole body that vibrates and resonates when it receives vibrations. The music acts physically and psychologically: the sound vibrates into different areas of the body and the melody activates mental associations and starts moving emotions.

For the musical autobiography, it is necessary to make a distinction between conscious and explicit memory, declarative and non-declarative or implicit memory. "The central idea is that implicit memory reflects a general system of plasticity in neuronal processing circuits leading to a relatively adaptive remodeling experience" (Reber, 2013, p. 2027). Implicit memory is also functionally distributed. Implicit memory has an adaptive function, allowing to refine and improve the efficiency of information processing. People can be able to shape and improve the processing of their action on the basis of experience (Reber, 2013, p. 2029) thanks to the implicit memory.

Research on Alzheimer's patients and healthy adults showed that listening to music stimulates greater meta-mnemonic awareness suggesting the possibility of using music therapy aimed at the enhancement of implicit memory. In contrast to the memory of the life-events, it seems to keep a memory of music that, when stimulated, can generate an implementation of other memory areas related to the content of the text more than for the memorization of a simply spoken dialogue (Simmons-Stern et al., 2012, p. 3301).

Rickard et al. (2012) showed how the use of music may intensify the call for a long time for an exciting story and therefore the emotional memory.



Listening to music facilitates neurogenesis, regeneration and repair of brain connections by increasing brain plasticity: Alzheimer's patients can still remember the music of the past, and listening to music can facilitate the recovery of other memories (Fukui & Toyoshima, 2008, p. 766). This type of memory retrieval is accompanied by the reconfiguration of the existing neuronal networks and can provide access to long-term memory (Fukui & Toyoshima, 2008, p. 769).

Memory components weakened can be supported through processes of co-activation of cortical areas related to listening to music, including the emotional ones (Cuddy & Dufin, 2005, p. 234). The difference lies only in the fact that the voluntary memory involves an attempt to remember while the involuntary memory is more closely related to the stimulus and emerges without intention. It also provides for greater wealth of detail and not just a vague feeling of familiarity (Anderson, Jacoby, Thomas & Balota, 2011, p. 726): "While oblivion understood as pure and simple cancellation of memory tracks has no remedy, psychoanalysis teaches us that we forget less than we think and that, through the work of recollection, we can get consciousness of parts of us buried in the unconscious" (Jervolino, 2007, p. 84).

No-voluntary memories differ from voluntary autobiographical memories for the cognitive effort involved – greater in the voluntary recall – and for greater naturalness of involuntary memory. The latter are less general and schematic, referring to specific events of the past, are recovered less frequently and repeatedly, more positive and less remote, accompanied by physiological reaction to a personal wellness (Barzykowski, 2012, p. 750).

The best method to study the involuntary memory is to administrate emotional material (Barzykowski, 2012, p. 748). After the exposition to some emotional stimulus staff, the involuntary memories are recorded using a diary. From personal narratives it can emerge if participants had voluntary or involuntary recall. In the musical autobiography device all those elements come into play, as we will see below, describing the first pilot study with this tool.

### 1.1. The pilot study (Strollo, 2011)

The use of autobiography music is part of a broader educational program, the Laboratory of education to listening, during which, through specific and graded exercises, students in their last year of Master's degree in Clinical, Dynamic and Community Psychology at the University of Naples "Federico II" were involved in experiential activities for studying the phenomenon of sound and music in its connections with their work. The workshop path was aimed at learning by doing the impact on identity construction of music and of musical choices. During the Academic Year 2011/2012, 25 students were invited to put into an I-pod about 100 songs played throughout life and play them back in the classroom, writing the memories emerging during listening. After the first phase of listening, the group discussed the emotions felt during the work. Once at home, students were asked to write their logbooks describing the experience and to answer a semi-structured questionnaire. Their autobiographical narratives were arranged in a sort of life-book (life events) whose chapters were thematic (friendship, love ...) or followed a chronological order (childhood, adolescence ...). Eventually they had the possibility to continue to write at home what experienced in classroom.

The considerations and conclusions reported in this article are the results of the discussion of the outcomes of the analysis of students' logbooks and questionnaires (Strollo, 2014).

One of the characteristics of the autobiographical writing traditionally understood is to be selective in the recall of memories which are filtered and reconstructed subjectively. This happens especially when the autobiography is not intended as a private act but as a stimulus to talk about themselves to one or more readers, generating the prevailing attitudes of self-censorship and self-control in view of a possible listener.

This selection of the voluntary recall is associated with a "natural selection" connected to being biologically programmed for not keeping in memory the totality of the experience. Our memory, in fact, is not comparable to the memory of a computer: the memory of a computer machine is precise, expandable and not accurate, while human memory is highly selective because structurally constrained, and it is not endless.

One of the peculiarities of the musical autobiography is that allows implicit memories to emerge without being intentionally sought.

### 1.2. Self-discovery and writing

Listening to music facilitates not only the emergence of distant memories but also their writing. The main difference between a classic autobiography and a musical autobiography is that listening to music helps a spontaneity that arouses emotion to such an extent that the level of self-censorship tends to decrease.

Mortari (2013) warns, "recognizing the self-directed learning value of story-telling should not make overlooked, however, the risk of over-sizing the therapeutic power of processing narrative experience in a written form. By writing it is developed the sense of the experience, and people can take away from this transcending the constraints that what was lived imposes when it remains 'unthought'; but not all the experience begs to be told, there is indeed a form of wisdom to know what to tell and what not. [...] Regarding certain events there is a need of retreat, of silence. The wisdom of not pretending to define in words the experience, is that of those who know that there are events that are beyond the possibility to grasp them and to manage with measures of human thought" (pp. 173-174).

Encouraging spontaneous writing movements, creative for structuring in new way their experiences and knowledge, allows to remember, express, bring out the difficulty to question, to distance, analyze the body arousal, create links between past, present and future: *I tried to take into account everything that came out, I wrote down the memories even in a piecemeal way, not to miss anything*, said one participant.

It follows a therapeutic function of the private writing which is recently confirmed in some research conducted by Ramirez and Beilock, who after having recruited 20 college students who received two math tests, generated during the second test a stressful situation telling students that if they answered correctly they would receive a cash prize. A half of the sample was also asked to write their own emotions about evidence before supporting it. Well, this group has achieved superior results compared to the control group, improving their performance compared to that of the first test against a significant deterioration in the control group (Ramirez & Beilock, 2011).

By writing we distance ourselves from what has been heard, observed, lived, as well as when we listen, observe, we live here and now: "separating writing, we look better the object that we want to know, first ourselves" (Demetrio, 2003, p. 173). This function of musical autobiographical narrative can generate a "surprise" effect:

Anita, one of the students: *it was unexpected my freedom to write: I told some painful moments that I thought I did not want to deal with, however the music has broken down the resistance of the pride and has marked the rhythm of the pen on the paper [...] once at home [...] I had to use new sheets because the former ones, those written in the classroom, have a confusion and a truth unrivaled, while the latter, those written at home, are just as important and intense, but perhaps less evocative of stories and memories.* As critical points identified by students, they appear two nodes around which to dwell, the time devoted to the experience, which was wider in the second and third study, and the need for greater sharing of emotions emerged during the experience. In response to this need, already in the pilot study it was established to open closed Facebook groups in which students would also widely compare to each other posting comments and sharing songs on the Facebook group wall.

## 2. The second study (Strollo, 2014)

The sample of the second study consists of 45 students enrolled in the Master's Degree in Psychology and 120 students of Training Internship for Secondary School Teachers.

Similarly to what was found in the pilot study, students were enabled to learn through experience potential and specific constraints of musical autobiographical writing as device retrospection, self-reflection and self-directed learning, to grasp the elements of self-censorship and self-control. Starting from the experience of the pilot study it was possible to structure a metacognitive grid of open-ended answers and a metacognitive semi-structured questionnaire.

From the reports of the participants it emerges awareness of the interplay between temporal dimensions: *some songs reminded us how our present is a result of our past and prerequisite for our future; This experience allowed me to think back to the many good times we had, but also to overcome the difficulties and to rethink my whole path in general. Not always I have the strength to look into the past and see how it has been, but through this work, I looked back and I filled some white space in my life; Writing my autobiography allowed me to rethink some special moments of my life and to face, finally after so many years, old ghosts who tried to avoid and escape. And it happened without any conscious effort.*

Geiger distinguishes between two different attitudes of listeners. The first attitude is defined by inner concentration, so the music is "an instrument to enjoy their feelings [...], a form of neglect. [...] The work of art in itself – its construction, its thematic developments, the warp of internal harmonies – does not mean anything". The listener is "lulled by the swaying of sounds and [...] carried in a frame of mind where it is possible to dream" (Geiger, 1988, p. 41). This is counterbalanced by an attitude of external concentration, depending on personal disposition of the listeners as well as by different musical styles: "sometimes music is the art of pure objectivity - objective art, in which the feeling passes completely overshadowed to an almost intellectual understanding of the construction; at different times is an art of subjectivism, the expression of feelings, a sound world full of feeling" (Geiger, 1988, p. 42). The objective or subjective character of the music matches the type of concentration required, external to receive objective music, interior to enjoy subjective music.

Writing our own autobiography listening to music, therefore, gives birth to "projective" type (La Casa, 1985, p. 65) of listening, because listeners precisely project themselves, their emotions, their memories on the track:

*What I would like to stress, in my personal experience, was the fact that not each memory was associated with the words contained in the text, but with the sound. It was the sound that, in a song, was able to awaken feelings, thrills and memories I did not know that I had; I marveled at how music was associated to memories so clearly ... I began to associate pieces of songs to pieces of my life almost without realizing it. Gradually all those familiar sounds triggered in me various emotions of tenderness, joy, melancholy, sadness and memories have surfaced to mind very easily. The strange thing is that even music of my present has often reported me back in time and those of the past have made me think about what I am today; sometimes music belonging to certain periods of my life led me back to moments of "other" experiences not related to those specific periods. It happened that memories I thought removed came to light thanks to songs completely disconnected from them; by remembering I was able to assign new meanings to songs existing long time ago, or to evoke the same sense enriched by actual sensitivity certainly more complex. Experiencing intensely in terms of emotional and sentimental drives me in a new way, more aware of the capabilities of the evocative instrument of music.*

The objectives of the research related to the possibility of musical autobiography are:

- To live the experience of autobiographical writing as device of retrospection, self-reflection and self-directed learning;
- To grasp through experience the elements of self-censorship and self-control;



- To experience the role of music on cognitive processes and in particular the association among music/emotions/experiences.

From the analysis of logbooks, of metacognitive grid answers and questionnaires related to the pilot study and the second studies, it emerges as students have the opportunity to experience some elements that characterize the traditional autobiography, as the elements of self-censorship and self-control, which fail when they write their autobiography listening to music. They have thus been able to better understand the role of music on cognitive processes, particularly on emotional processes, and the role of writing as a tool that allows them to objectify themselves and to give free rein to the memory and emotions connected.

While international research conducted in the field of neuroscience (Chen, Penhune & Zatorre, 2008) are mainly aimed at measuring the activation of specific brain areas in response to different sound stimuli, the aim of the research presented was to empirically explore the potential educational of music, specifically of musical autobiography, in adult education in formal settings. Already Massa (2000) considers the autobiographical story-telling in students' education a tool to bring to light the existential phenomenology of the training-path itself. The musical autobiography, as device of retrospection and self-reflection, can reconstruct the psychosocial and existential experience of the participating members, characterizing itself as a transformational tool. The use of mixed methodologies for the analysis of the experience, as the logbook, the metacognitive grid and questionnaires, made it possible to respond to research questions, as well as to implement the ability of critical thinking on students' personal and dispositional knowledge, values and meanings.

Writing musical autobiography students raised questions related to phenomenological properties (liveliness, emotional value, uniqueness, instinctiveness, response in mood and physiological sensations), which are absent in traditional autobiography, as done in the study by Schlagman and Kvavilashvili (2008).

After the task, the metacognitive grid enabled them to process meta-cognitively experience (Stollo, 2014).

The research therefore developed interdependent directions of research, promoting emancipatory learning: this type of learning is the critical assessment of instinctive, institutional, cultural constraints and social factors that limit our opportunities. Writing, especially writing musical autobiography, both during the classroom session, both in the logbooks and metacognitive grid, allows to highlight the implicit, to develop binocular attention between what is pretty much taken for granted and processes of reflection on it. Therein lie the emancipatory potential and the development of awareness of intentions, motivations, prejudices, censorship that guide our actions.

A further development of the research could provide for a first step based on writing the memory evoked during the time of the choice of songs (in silence) that could be compared to what will be written while listening.

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