

## TRAINING THE RECOGNITION OF EMOTIONS BASED ON BIBLIOTHERAPY TECHNIQUES

József Szabó & Mária Sipos

St. Raphael's Hospital in Zala County, Psychiatry Department, Zalaegerszeg, Hungary

### SUMMARY

The deficit of mentalisation skills is a well-known phenomenon in schizophrenia. In our study, patients with schizophrenia underwent an 8-session training. The procedure was based on bibliotherapy, and we associated each basic emotion identified by Ekman with a short story that gave a striking description of that emotion. After we read the stories together, the participants were given a collection of face portrait photos and they were asked to pick the one that illustrated the emotional state of the characters. They were also asked to recall a personal memory when they felt the same way. We used the 'Reading the Mind in the Eyes' (RMET) test to assess the efficiency of our method. The one-sample t-test we performed to compare the pre- and post-training values detected a significant difference ( $p=0.000608<0.05$ ). The control group of patients with schizophrenia who did not undergo the training presented no significant difference between the two RMET tests performed 2 weeks apart ( $p=0.467$ ). However, the two-sample t-test performed on the individual changes in RMET results in the study and control groups did detect a significant difference ( $p=0.000786<0.005$ ). Our results suggest that the mentalisation deficit of people suffering from schizophrenia can be decreased, therefore their communicative and adaptive skills can be developed or at least the deterioration of these skills can be slowed down.

**Key words:** schizophrenia – depression - mentalisation skills – bibliotherapy

\* \* \* \* \*

### INTRODUCTION

As a result of the considerable advances in the field of biological psychiatry in the last decade of the previous millennium, different forms of psychotherapy and mainly sociotherapy lost their previous importance, as both the inventors of the WHO program 'Decade of the Brain' (1990's) and numerous other scientists and practising psychiatrists believed that all mental abnormalities would soon have biological treatments based on the results of brain research (Gunby 1990, Judd 1990). However, contrary to its plentiful remarkable discoveries, the 'Decade of the Brain' did not fulfil such hopes, so the previously mentioned therapeutic modalities have once again come to the forefront of psychiatry (Tandon 2000, Zugman et al. 2016). The intersection of these two seemingly contradictory trends has provided us with an extensive knowledge of the biological background of psychotherapy, and we also know that psychological methods can bring forward biological changes in the brain as well (Prosser et al. 2016, Bagwell 1999).

In the 1990's, mentalisation became a major focus of attention in the field of research concerning psychoses and primarily schizophrenia. Mentalisation had been present in scientific literature earlier and its deficit was also well-known in several psychopathological conditions (schizophrenia, autism, psychopathy, depression, dementia, addictive disorders) (Besche-Richard et al. 2012, Bora et al. 2008), thus the psychodiagnostic and psychiatric importance of its research has been increasing for decades (Gleichgerricht et al. 2013, Shamay-Tsoory et al. 2010). Cognitive neuroscience considers mentalisation being specific to humans; however, it does accept that some anthropoid apes are capable of it to some extent and this ability is associated with the

presence of the so-called mirror neurons. The phenomenon refers to the inner representation of others' mental state (Ozsváth 2011). If we want to be truly comprehensible it means that during our social interactions we continuously form assumptions about the thought(s), feeling(s) and intension(s) of the other person(s) we are interacting with. The ability of mentalisation differs from person to person, which can be attributed to differences in personality development. The information necessary for the creation of inner representation (mentalisation) is received through communication channels. Therefore, mentalisation channels are primarily verbal and nonverbal channels. Information received via verbal communication can also be divided into two groups: manifest (i.e. intentional) and linguistically coded information (Philipsen 1975). Nonverbal signs accompanying verbal communication can also provide clues concerning the speaker's mental state. Nonverbal clues mainly include facial expressions, gestures and body language. Since Paul Ekman published his theory, we have known that our face plays a most important role in expressing our feelings. Emotions reflected by our face have an essential role in communication and their exact recognition is vital in understanding others' emotional state and intentions. Misinterpretation of feelings may lead to misunderstanding or inappropriate social behaviour (Ekman 1980). As a result, the psychodiagnostic evaluation of mentalisation primarily aims to investigate the recognition of facial expressions. Following the discovery and description of basic emotions, Ekman himself turned to psychodiagnostic application. His *Pictures of Facial Affections* (POFA) test is a huge collection of emotional facial expressions, and its more elaborate version, the *60 Faces test*, is a tool used in assessing emotion recognition (Ekman 1976).

Consequently, therapeutic methods aiming to restore and develop the function of social cognition have been included in psychiatric care, primarily in the treatment of depression and the rehabilitation of patients with schizophrenia. Besides psycho- and sociotherapeutic groups that create situations necessitating social interactions, we have to mention metacognitive trainings (Fekete et al. 2016) as well. Several studies supporting the beneficial effect of metacognitive training on communication, integration and functioning have been published recently highlighting their importance in psychiatric rehabilitation.

Apart from this, scientific literature dealing with the methodology of supportive therapy and its psychological background has started to use the term *mentalisation* instead of the previously widespread expression, empathy. Although the two terms overlap, we cannot consider them identical. While empathy mostly appears in the artistic approach to psychology, the term mentalisation rather originates from recent advances in cognitive neuroscience. The science-based psychology of today seems to prefer mentalisation, which has a physiological background and psychopathological importance, as it can be defined more precisely, then measured and investigated with imaging techniques (Gleichgerrcht et al. 2013, Shamay-Tsoory et al. 2010).

For the purpose of the study and the method we are going to present, we have to say a few words about bibliotherapy. In sociotherapy, bibliotherapy has been widely used for centuries. In the first half of the previous century, clinical studies started to assess its applicability and efficacy in several diseases, and before long its benefits were confirmed in the treatment and rehabilitation of schizophrenia, too. Now, in the 21st century, bibliotherapy still has untapped potentials. Current research also focuses on the possibility of online application. G. TÓTH, Anita has published a detailed review article on the history of bibliotherapy and its fields of application. In our study, we would like to present the application and results of classic bibliotherapy in view of mentalisation theories (G. Tóth 2016).

## MATERIAL AND METHODS

Our main objective was to develop a technique that would affect mentalisation in a more targeted and specific way than bibliotherapy, which can strengthen the recognition and expression of emotions in itself as well. In addition, we aimed to assess the effectiveness of this new technique.

The literary sources used in the group processes were selected in a way that each would give a powerful representation of one of the six basic emotions described by Ekman. Naturally, the chosen short stories reflect more than one emotion, and subjective factors cannot be ruled out either but the two therapists leading the groups reached a consensus with the librarian-teacher assistant, and their choice was later supported by the participants' appropriate recognition of emotions. Most of the chosen literary works of art were written in the first half of the

previous century by classic Hungarian writers. We do not intend to include a detailed list of these texts as we do not wish to force our template on future therapists; it is essential that they find sources that match their ideas, interest and aesthetic needs. The first group meeting normally followed the pattern of initial closed group therapy sessions; i.e. the participants introduced themselves and they were informed of the applied method, the rules were laid down and the therapeutic contract was agreed on. During the following 6 sessions, we read one of the short stories together and discussed the emotional experience. The participants were asked to name the emotions they could identify, comment on the emotional state of the characters in a given situation, and recall if they felt the same way while listening to the story. After the discussion, the participants were shown a set of photos specifically chosen for that short story from the validated face portrait collection of the Warsaw Set of Emotional Facial Expression Pictures (Olszanovszky et al. 2014) and they were asked to match the emotion reflected by the picture with the emotions of the characters in certain situations. The set of photos contained some pictures showing emotions that did not fit the short story – the identification of these photos was also part of the task. Next, the participants were asked to recall events and situations from their own life when they had emotions similar to those experienced by the characters. While one member of the group was telling the others about his/her emotions, they had to watch out for signs of the same emotion reflected by the subject's facial expressions. All therapy sessions had only a few participants (4-6) thus we could easily allocate time equally. The two-week training included 8 sessions in a closed group, inpatient setting and each session lasted for 60 minutes. Patients who took part in the training conducted in the outpatient setting attended one session per week for 8 weeks.

Altogether 5 trainings were conducted with the participation of patients whose condition can be described by the disease entities listed in the Schizophrenia Spectrum and Other Psychotic Disorders category of DSM V. Exclusion criteria were age over 60, severe cognitive decline, mental retardation and current psychotic condition. Altogether 30 patients (N=30) participated in the 5 trainings.

The effectiveness of the training was assessed with the Hungarian translation of the *Reading the Mind in the Eyes test* (RMeT), which was published by the developers of the test. The following 2 figures (Figure 1, 2) were taken from this test; the facial segments reflect one of the emotions written around the image and the subject's task is to identify this emotion (Baron-Cohen et al. 2011).

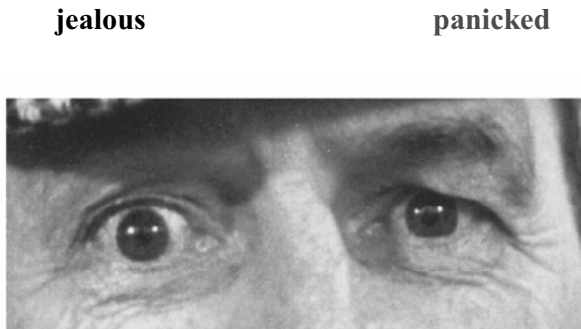
## Statistics

Our hypothesis was that the above mentioned group training would improve the participants' mentalisation skills, leading to significant differences between the pre- and post-training RMeT test results. The pre- and post-training results were compared with a one-sample t-test.

## RESULTS

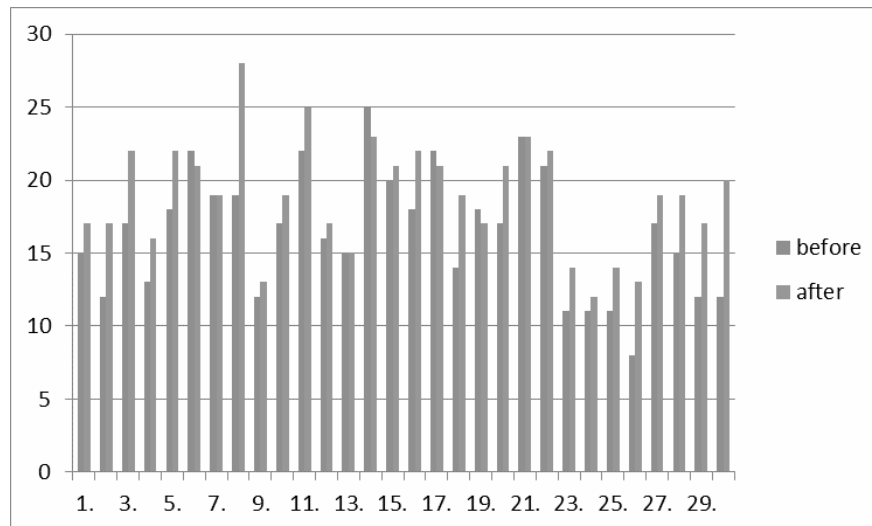
The paired t-test we performed confirmed our expectations; the pre- and post-training results of the RMeT test showed significant differences ( $p=0.000608 < 0.5$ ) (Figure 3). Out of 30 subjects, 2 showed a decrease in test results, 3 participants showed no changes while all the other subjects demonstrated positive changes.

The degree of the change exceeded 40% in one case and the mean change was 2.6 points. When comparing the findings of the control group 2 weeks apart, we could not find any significant differences ( $p=0.467$ ). When comparing the individual changes in the study and the control group with a paired t-test, we could also detect significant differences:  $p=0.000786 < 0.005$  (Figure 4).

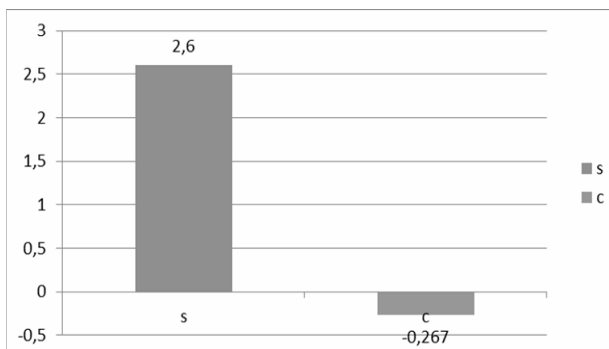


**Figure 1.** Reading the Mind in the Eyes test, set 1  
 Source: [http://www.autismresearchcentre.com/arc\\_tests/](http://www.autismresearchcentre.com/arc_tests/)

**Figure 2.** Reading the Mind in the Eyes test, set 2  
 Source: [http://www.autismresearchcentre.com/arc\\_tests/](http://www.autismresearchcentre.com/arc_tests/)



**Figure 3.** Individual pre- and post-training results of the study group



**Figure 4.** The mean value of test result changes in the study and control group

## DISCUSSION

Although we do not want to draw far-reaching conclusions because of the low number of participants, our method seems to be effective, as well as promising. As a result, it has been included in the therapeutic repertoire of our department, so that we can carry out further studies and report the results of studies performed on a higher number of cases. As regards clinical application, the use of other patient groups should also be considered. We also have high hopes of conducting a similar training in depression as mentalisation deficit is also characteristic of that condition. However, in depression, mentalisation deficit is considerably easier to treat (together with mood) than in schizophrenia. Consequently, depressed patients are more likely to show a faster, more effective change

and their communication skills and adaptability could be restored faster. Our method could also prove effective in developing the professional skills of those working in supportive jobs, as both empathy and mentalisation are essential skills and aptitude criteria in supportive professions. The lack of empathy will definitely lead to burn-out, but burn-out syndrome due to other factors (insufficient support at the workplace, lack of financial reward, inappropriate coping with stress) can also lead to or be accompanied by lack of empathy. One thing is certain: if somebody chooses a supportive career or one in health care, they need success, i.e. emotional feedback from their patients in order to find that career rewarding and satisfying; therefore, mentalisation is vital for long-term progress. We cannot ignore the key role of mentalisation in communicating with the patients and in the healing aspects of communication, although our present study did not focus on this feature. Appropriate adaptations may also make our method worth considering in the prevention of burn-out.

Our results might have been biased by the fact that we could not perform a comprehensive investigation of mentalisation but we only studied one aspect of it, namely the ability to recognise emotions on the basis of facial expressions. Mentalisation is significantly more complex, thus it is more difficult to measure. In practice, there are other mentalisation channels as well: we have mentioned several verbal and non-verbal channels that can aid the receiver when forming the inner representation of the other person's mental condition. It also has to be noted that other therapeutic methods were also used in the treatment of our patients so the detected beneficial changes may not only be attributable to the technique we applied.

## CONCLUSION

Consequently, our study cannot be considered comprehensive or complete; it needs further supplementation and it raises several issues that need further investigation, but it can also broaden the therapeutic approach to mentalisation and the rehabilitation of people suffering from schizophrenia.

**Acknowledgements:** None.

**Conflict of interest:** None to declare.

### Contribution of individual authors:

József Szabó: analyses and reviewed;

Mária Sipos: data analysis.

Correspondence:

József Szabó, PhD, Mental Health Therapist  
St. Raphael's Hospital in Zala County, Psychiatry Department  
Zalaegerszeg, Hungary  
E-mail: [testudo7115@gmail.com](mailto:testudo7115@gmail.com)

## References

1. Bagwell HR: *Integrative processing: a biological foundation for psychotherapy*. *Psychiatry* 1999; 62:273-286
2. Baron-Cohen S, Wheelwright S, Hill J: *The „reading the mind in the eyes” test, revised version: a study with normal adults, and adults with Asperger Syndrome or high-functioning autism*. *Journal of Child Psychology and Psychiatry* 2011; 42:241-252
3. Besche-Richard C, Bourrin-Tisseron A, Olivier M, Cuervo-Lombard CV, Limosin F: *Recognition of facial emotions and theory of mind in schizophrenia: could the theory of mind deficit be due to the non-recognition of facial emotions?* *Encephale* 2012; 38: 241-2477
4. Bora E, Gökçen S, Veznedaroglu B. *Empathic abilities in people with schizophrenia*. *Psychiatry Res* 2008; 160:23-29
5. Ekman P, Friesen WV: *Measuring facial movement*. *Environmental Psychology and nonverbal behavior* 1976; 1:56-75
6. Ekman P: *The face of man: expressions of universal emotions in a New Guinea village*. New York. Garland STPM Press, 1980
7. Fekete Z, Vass E, Kancsev A, Kuritárné Szabó I: *A szkizofréniában jelentkező metakognitív deficitek kezelése, a Metakognitív Tréning*. *Psychiatria Hungarica* 2016; 31:231-238
8. G. Tóth A. *A biblioterápia klinikai alkalmazásáról*. *Könyvtári figyelő* 2016; 1:14-24
9. Gleichgerrecht E, Torralva T, Rattazzi A, Marengo V, Roca M, Manes F: *Selective impairment of cognitive empathy for moral judgment in adults with high functioning autism*. *Soc Cogn Affect Neurosci* 2013; 8:780-788
10. Gunby P: *'Decade of brain' holds promise for answers to schizophrenia*. *JAMA* 1990; 264:2483
11. Judd LL: *Innovative programs for the decade of the brain*. *J Child Adolesc Psychopharmacol* 1990; 2:159-162
12. Olszanovszky M, Pochwatko G, Kuklinski K, Scibor-Rylski M, Lewinski P, Ohme R K. *Warsaw set of emotional facial expression pictures: a validation study of facial display photographs*. *Front Psychol* 2014; 5:1516
13. Ozsváth K. (editor) *Pszichiátriai lexikon. Oriold és Társai Kiadó. Budapest. 2011. p. 219*
14. Philipsen G: *Speaking like a man in Teamsterville: Cultural Patterns of Role Enactment in an Urban Neighborhood*. *Quarterly Journal of Speech* 1975; 61:13.-22
15. Prosser A, Helfer B, Leucht S. *Biological v. psychosocial treatments: a myth about pharmacotherapy v. psychotherapy*. *Br J Psychiatry* 2016; 208:309-311
16. Shamay-Tsoory SG, Harari H, Aharon-Peretz J, Levkovitz Y: *The role of the orbitofrontal cortex in affective theory of mind deficits in criminal offenders with psychopathic tendencies*. *Cortex* 2010; 46:668-677
17. Tandon PN: *The decade of the brain: a brief review*. *Neurology India* 2000; 48:199-207
18. Zugman A, Sato JR, Jackowski AP: *Crisis in neuroimaging: is neuroimaging failing 15 years after the decade of the brain?* *Rev Bras Psiquiatr* 2016; 38:267-279