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MENTAL IMAGERY AND SYMPTOM PATTERNS

GIUSEPPE SACCO

VEZIO RUGGIERI

University of Rome 'La Sapienza,' Italy

ABSTRACT

This research is intended to begin a study into the relationships between imagery and some symptom patterns. In particular, we have considered the relationships between image vividness and four most important patterns. These patterns are: depressive, obsessive, eating disorders, and phobic. The relationships between the four patterns and the tendency to somatize have also been investigated. Among the results of interest obtained during research is the existence of a general inhibition of vividness in the depressive group and a marked tendency to produce vivid images (excluding kinesthetic images) in the phobic group. The obsessive group had least difficulty in producing vivid mental images, followed by the group of participants with eating disorders. These results could have important clinical repercussion and applications. These are briefly discussed.

INTRODUCTION

Many recent studies have demonstrated the importance of the study of *mental imagery* in order to understand cognitive-emotive processes, as well as its applied use in such fields as clinical psychology, sport psychology, prevention psychology, etc. [1-14]. Furthermore, as the methods of research and the theoretical aspects have been refined, the study of *imagery* has for some time now been considered an important topic in the context of psychology, acquiring full scientific dignity in its own right [15]. In the ambit of clinical psychology, in particular, mental imagery is now used in a variety of different psychotherapeutic contexts:

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analytical psychotherapy [16], *guided daydream* methodologies [17, 18] and *daydreaming* [19, 20], *eidetic psychotherapy* [21], patterns with *multiple components* [22], the methodologies and techniques of *behavioral psychotherapies* [23, 24], *cognitive-behavioral psychotherapy* [25], and *cognitive psychotherapies* [14, 26]. Among the main characteristics of *imagery* to have been studied by numerous authors, we have *vividness, controllability,* and *modality* [27]. Specifically, the characteristics of *vividness* have been studied by many researchers who have recognized its importance to both *imagery*-like processes and their clinical applications [28-35]. By "vividness" we mean: ". . . a combination of clarity and liveliness. The more vivid an image, (therefore), the closer it approximates an actual percept" [36, p. 83]. The *vividness* and *clarity* of the imagined scenes have been closely related to the effectiveness of the treatment by a number of researchers [e.g., 14, 23, 35, 37]. The data to have emerged from research, however, continues to be at least partially contradictory and further study is still required.

When studying *vividness,* seven different sense channels can be taken into consideration [14, 38-40]. These are: 1) the visual channel, that is, the ability to represent visual images in the imagination; 2) the acoustic channel, that is, the ability to represent sounds in the imagination; 3) the tactile channel, that is, the ability to represent tactile sensations in the imagination; 4) the kinesthetic channel, that is, the ability to represent movement in the imagination; 5) the olfactory channel, that is, the ability to represent scents in the imagination; 6) the gustatory channel, that is, the ability to represent tastes in the imagination; and finally, 7) the organic channel, that is, the ability to represent organic sensations (such as hunger, satiety, tiredness, etc.) in the imagination.

Finally, the scale *general vividness* measures the overall capacity of the imagination.

RESEARCH HYPOTHESIS

In this research we have begun to study *vividness* with some of the main *symptom patterns* we meet in clinical practice as depression, phobias, obsession, and eating disorders.

Can the presence of a *symptom pattern,* in other words, influence *vividness*? If so, in what modalities does this occur and are there any significant correlations between *vividness* and *symptom patterns*?

Starting from a series of clinical observations published elsewhere [14, pp. 233-235] we have also formulated the hypothesis that significant relations exist between *vividness* and the *somatization* of psychic unease, and that relations differ among the four groups considered in terms of *symptom pattern.*

METHOD

Participants

The participants to experimental test were university students of psychology. They were unaware of the purpose of the experiment, which was only explained to them when the experiment had been concluded. The mean age of the participants was 26.2, with an age range of twenty to thirty years. Ninety-six participants took part in the experiment.

Materials

The following materials were used for the experiment: 1) The Italian form of Questionnaire upon Mental Imagery (QMI) [38-40], 2) Cognitive-Behavioral Assessment (CBA) [41], in particular, the scale measuring the following *symptom patterns*: phobic, obsessive, depressive. The psychosomatic inventory for measuring the tendency to somatize psychological unease was also used, and 3) EAT-40 [42] to measure the *symptom pattern* of eating disorders.

PROCEDURE

Four experimental groups were formed choosing those participants who had scored highest (above the median) on tests measuring the following *symptom patterns*: depression (group I with $N = 23$, 15 females and 8 males); eating disorders (group II with $N = 25$, 16 females and 9 males); obsessive (group III with $N = 23$, 15 females and 8 males); and phobic (group IV with $N = 25$, 16 females and 9 males).

The participants elected for the four groups were then given the other three tests: the QMI, the CBA scales, and the EAT-40.

RESULTS

The four experimental groups differed in terms of inhibition of *general vividness* and *kinesthetic vividness*, as well as in levels of *somatization*. The results are shown in Tables 1 through 4.

It should be remembered that the QMI measures the *inhibition of vividness*. In other words, a high score in the *Questionnaire upon Mental Imagery* indicates a low level of *vividness*. A high score in the *Psychosomatic Inventory* on the other hand, indicates a high level of somatization. As we can see, the highest score in *vividness inhibition* appears in the *depressive* group, while the lowest score belongs to the *phobic* group (see Table 1). The highest level of *kinesthetic vividness inhibition* appears in the *depressive* group, while the lowest score is that of the *obsessive* group (see Table 2). The tendency toward *somatization* is highest among the *phobic* group, and lowest among the *obsessive* group (see

Table 1. ANOVA among the Four Participant Groups for Vividness Inhibition

	Depressive	Obsessive	Eating Disorders	Phobic
N	23	23	25	25
X	119.56	52.17	57.32	42.80
SD	9.54	10.97	15.57	7.33

One way ANOVA $F_{3,92} = 213.97$ ($P < .001$)

Table 2. ANOVA among the Four Participant Groups for Kinesthetic Vividness Inhibition

	Depressive	Obsessive	Eating Disorders	Phobic
N	23	23	25	25
X	20.43	9.96	12.64	17.44
SD	4.41	4.77	3.79	4.83

One way ANOVA $F_{3,92} = 24.37$ ($P < .05$)

Table 3. ANOVA among the Four Participant Groups for Somatization

	Depressive	Obsessive	Eating Disorders	Phobic
N	23	23	25	25
X	80.26	49.61	79.48	88.16
SD	10.59	10.69	10.66	20.17

One way ANOVA $F_{3,92} = 34.15$ ($P < .01$)

Table 4. Correlations between Vividness Inhibition and Somatization; between Vividness Kinesthetic Inhibition and Somatization in the Four Main Symptom Patterns; and between the Main Symptom Patterns and Somatization

Main Symptom Patterns	Vividness Somatization	Kinesthetic Vividness Somatization	Main Symptom Patterns Somatization
Depressive	N.S.	r = 0.60 d.f. = 21	r = 0.55 d.f. = 21
Obsessive	r = 0.64 d.f. = 21	r = 0.70 d.f. = 21	N.S.
Eating disorders	r = 0.64 d.f. = 23	r = 0.65 d.f. = 23	N.S.
Phobic	r = –0.90 d.f. = 23	r = –0.82 d.f. = 23	r = 0.60 d.f. = 23

($P < .01$)

Table 3). Finally, we calculated the *Pearson* correlations between *general and kinesthetic vividness inhibition* and *somatization*, and between the four main *symptom patterns* and *somatization* for each of the four experimental groups (see Table 4).

DISCUSSION

From the data obtained, a series of observations can be made.

1. Participants with a *depressive symptom pattern* produce the highest scores in the *inhibition of general vividness*, indicating greater difficulty in the production of vivid mental images. On the other hand, participants with a *phobic symptom pattern* produce the lowest scores, indicating greater facility in the production of vivid mental images. This would seem to confirm the clinical observations made by numerous authors [e.g., 35].

2. Once again, participants with a *depressive symptom pattern* have the greatest difficulty in producing *vivid kinesthetic mental images.* In this case, however, highly *phobic* participants also have difficulty, with average scores similar to those of the *depressive* group. The participants with least difficulty in producing *vivid kinesthetic mental images* seem to be those with an *obsessive symptom pattern,* who have the lowest score of all four groups, below that of those with an *eating disorders symptom pattern.*

3. Participants with a *phobic symptom pattern* produce the highest scores in somatization levels, immediately followed by those with a *depressive symptom pattern* and with an *eating disorders pattern.* The participants with the lowest somatization levels, obtaining the lowest average scores, are those with a *obsessive symptom pattern.*

4. The correlations reveal the following:
   I. In participants with a *depressive symptom pattern,* there is no significant correlation between *general vividness inhibition* and *somatization.* There is a significant positive correlation between *kinesthetic vividness inhibition* and *somatization* and, at times, between a *depressive symptom pattern* and *somatization.*
   II. In participants with an *obsessive symptom pattern,* there is a strong positive correlation between *vividness inhibition* and *somatization,* and between *kinesthetic vividness* and *somatization,* while there is no significant correlation between an *obsessive symptom pattern* and *somatization.*
   III. In participants with an *eating disorders symptom pattern,* there is no significant correlation with *somatization,* while there is a strong positive correlation between *vividness inhibition* and *somatization* and between *kinesthetic vividness inhibition* and *somatization.*
   IV. Finally, in participants with a *phobic symptom pattern,* there is a very strong negative correlation between *general vividness inhibition* and *somatization,* and between *kinesthetic vividness inhibition* and *somatization,* while there is a significant positive correlation between a *phobic symptom pattern* and *somatization.* Our research appears to confirm the hypothesized relation between *vividness* and *symptom pattern.*

Particularly interesting is the fact that *vividness* in the *depressive group* is strongly inhibited compared to the other groups. This has stimulated some remarks that we would like to report briefly here.

In depression, the internal dialogue and imagery are influenced by the so-called "cognitive-triad" [26]: 1) negative self-image, 2) negative image of the world, and 3) negative anticipation of the future.

As a result, imagery and internal dialogue of depressed are based on a low self-esteem; on a low self-value and self-competence; on failures and losses; and on a future of failure and without prospects.

From a clinical viewpoint, depression is characterized by a disorder in verbal representation, involving "ruminating" over negative past events [43], negative self-evaluation [44], and penalizing self-attribution [45]. Because of this, many researchers believe that imagery does not play a significant role for clinical understanding of depression.

Unlike disorders characterized by anxiety states in which imagery plays a more central role, in the case of depression we are confronted by a total thought-style. For this reason, an event or single experience is less likely to be focalized in the depressive's thought. Depressives are thus less likely to imagine a specific picture. The fact that depressives have an attributive-style to explain the causes of relatively stable and rigid negative events seem to confirm these observations [45]. Consequently, the content of depressive thought is too abstract to be

imagined easily. Therefore, if we consider that anxiety is more collected to events, while depression is more collected to self-evaluation, it is clear that anxiety is more likely to produce images with an emotive context than depression [35]. Nevertheless, our research indicates that it would be interesting to verify the appicative utility of training and imagery techniques used, in cases of clinical depression, to focalize patients in the gradual acquisition of the ability to imagine significant kinesthetic scenes. It would then be possible to proceed to stimulate the patient to develop those information processing skills, initially in imagery and then, gradually, in *vivo*. However, we believe that further experimental research is required in order to interpret the results more thoroughly.

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Direct reprint requests to:

Vezio Ruggieri and Giuseppe Sacco
Università di Roma 'La Sapienza'
Cattedra di Psicofisiologia Clinica
Facoltà di Psicologia
Via dei Marsi 78
00185 Roma
Italy
tel. 0039 + 6 + 49917597