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# Changes in ego strength in patients with neurotic and personality disorders treated with a short-term comprehensive psychodynamic psychotherapy

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**Summary**

**Aim.** Analysis of changes in ego strength in the course of group psychotherapy in patients treated with neurotic and selected personality disorders (F40-F61, ICD-10).

**Methods.** 82 patients (61 women and 21 men) participated in the study. They underwent intensive short-term group psychotherapy treatment in a day hospital for neurotic and behavioural disorders. The assessment of the patients' personality functioning was carried out at the onset and the end of the psychotherapy. The assessment was reported as a value on the ego strength scale by means of the MMPI-2 questionnaire.

**Results.** The comparative analysis with the use of the Student's t-test for related measurements, which was carried out for the measurement of ego strength values at the onset and the end of the therapy, demonstrated a statistically significant positive change both for the entire examined group and the groups which considered the gender and diagnosis distribution.

**Conclusions.** Short-term intensive comprehensive group psychotherapy with elements of individual psychotherapy results in obtaining the desired changes in the personality functioning manifested through the increase in ego strength.

**Key words**: psychotherapy, MMPI-2, ego strength

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## Introduction

Ego strength is of key importance for the feeling of self-identity, the experience of oneself and the world in reference to self-agency, the cohesion of experiences and views, the understanding of the surrounding reality and the occupation of space in it. That is reflected in the way family or professional roles are fulfilled, which in other words can be widely regarded as individual and social functioning [1].

Psychotherapy defines ego strength as an ability to maintain own identity irrespective of a mental distress, suffering, conflicts between internal needs and external demands [2]. The ability to maintain ego stability based on a relatively constant set of personality features is reflected in the ability to maintain sanity [3]. Those features may include the ability to deal with daily stressors, disappointment, guilt and embarrassment together with the capability of going through mourning after a loss, reacting with sympathy and empathy, adequate coping with anger, hatred, aggressiveness, the ability to accept gratification, postpone a reward reception and bear frustration. Also, it encompasses a possibility of learning, flexible adjustment to new life roles and social conditions, vitality and the ability to carry out various life tasks and gain satisfaction together with the ability to collaborate, draw conclusions, associate facts and predict the consequences of actions. It also involves openness to experiences and the ability to form stable and satisfying relationships [4].

The origins of searching for the essence of ego (widely regarded as own identity) could be traced in the ancient times [5]. Socrates, by asking numerous questions, tried to make the interlocutor aware of the complexity of their own nature. Similarly, Plato in his concept confronted the question about the nature of "I". Both nativism and empiricism played an important role in the development of views concerning the essence of "I" [6]. Freud's work contribution to the development of the ego concept remains undeniable, too. If juxtaposed with id (*das Es*, "it") and superego (*das Über-Ich*, "over-I"), the term ego (*das Ich*, "I") turned up in Sigmund Freud's writings as late as in the twenties of the twentieth century but it already existed independently in his first psychoanalytical works. It should be noted though that Freud used the term "ego" on very rare occasions, as his own term was "ich". However, psychoanalysis was formed as a reaction to the nineteenth century ego psychology in which the terms such as "I", "me" and "self" were adopted concurrently [6].

In the work entitled "Project for a Scientific Psychology" (1895) the concept of "I" was presented as a group of neurons which are constantly stimulated with the permanent recurrence of pleasure followed by pain. The key two functions of "I" were the soothing of the impulses which lead to a direct action and those which lead to the development of extreme fear. These tasks can be defined by one word as the inhibition of the primary process [7]. The significant fact is that in 1923 Freud recognised that ego organises cognitive processes on the conscious level and regulates the entirety of internal and external influences on personality. Shortly afterwards, in 1931 Nunberg referred to the synthetic function of ego [8].

Ego in the psychoanalytical model is delineated as a basic structure along with Superego and Id. Ego is created because satisfying body needs requires actions in the

real (objective) world through the transformation of images into observations. It is subordinate to the principle of reality, functions by means of the secondary process and controls cognitive and intellectual functions [9]. In the post-war translation of Freud's works the terminology from the English version was adopted. It was a consequence of, among others, psychoanalysis being re-introduced to European countries by the USA after World War II. Another important factor was the fact that most German-speaking psychoanalysts of Jewish origin migrated to the USA and England. Consequently, in a few works translated into Polish at that time the original term "das Ich" was rendered under the English convention as "ego" [9].

Melanie Klein [10] believed that ego exists from a person's birth and is capable of acting from the very start. An example of that is the search for the primary object – a breast. Jacques Lacan [11] places the moment of "I" development at the mirror stage meaning a development phase in which the identification of a primarily non-integrated set of parts with the ideal image a child sees in the mirror occurs. Thus, in Lacan's concept, any of person's self-beliefs is merely a delusion. The mirror phase is the moment of the imaginative register foundation. In transactional analysis, on the other hand, an adult component is the equivalent of ego [12].

Jane Loevinger points out that four interpretations are assigned to the development of ego. The first one identifies the development at the stage when ego comes into existence [13]. In that sense it is impossible to distinguish definitely the development of ego from the psychosexual or intellectual development. The second meaning refers the development of ego to the complete development in a conflict-free zone [14]. The third one turns up along with the concept of ego as a habitat of numerous functions [15]. The fourth model adopted by Erich Erickson refers the development of ego to the psychosocial development [16].

In Loevinger's theory [17] the characterological features of the ego development include inter alia cognitive complexity, morality, intervention, and a type of I identification. The development of ego proceeds in particular phases (stages of development):

a) stage one: pre-social and symbiotic (I or not-I);
b) stage two: impulsive (fear of punishment, bodily sensation, in particular, sexual and aggressive ones);
c) stage three: self-protection (fear of reprehensible behaviour exposure, control);
d) transition period (subordination and conformity to social norms, simplicity of concepts, stereotypicality);
e) stage four: conformist (search for social acceptance, guilt resulting from the breach of social norms);
f) transition period (consciousness of the bond with a group, diversification of norms and objectives, multiplicity of concepts);
g) stage five: conscientious (diversified feelings, objectives and motives, self-respect, self-criticism, own standards);
h) transition period (respect for individuality, distinction between internal and external life, satisfaction with interpersonal relationships);
i) stage six: autonomous (coping with internal conflicts, high cognitive complexity, tolerance of ambiguity);

j) stage seven: integrated (satisfaction and individuality, identity, concept of own role, self-fulfilment, acceptance of impossibility, I in a social context) [17].

In the correct conceptualisation of ego it is vital to make a distinction among the physical, intellectual and psychosexual spheres of its development. In Piaget's view [18] ego is mainly a process in which a fluid development counterbalance of particular spheres occurs. The spheres are regarded as holism and are directed at the maintenance of an objective and the sense of an individual's action (teleologism). Alfred Adler, one of Freud's followers and associates, undoubtedly deserves attention as he emphasised the significance of personality unity and coherence in the development of ego [19].

The high strength of ego is related to the feeling of coherence understood as the global orientation of a man. It expresses a degree of a relatively stable feeling of confidence concerning intelligibility, meaningfulness and resourcefulness. In psychiatric diagnostics the value of ego strength is adopted as a prognostic of treatment efficacy. Low ego strength coexists with inadequate defence mechanisms, a lack of capability of coping with frustration, and a low level of stimulation. Ego strength on moderate level offers a good prognosis for psychotherapy treatment. On the other hand, one of the key symptoms reflected in the functioning of the patients with neurotic and personality disorders is a lowered level of ego strength and related incorrect and non-adaptive defence mechanisms [20]. Patients with very poor ego strength are frequently individuals with a psychotic organisation of personality. They do not cope with a high level of frustration which arises during an insight therapy and find it difficult to create a therapeutic bond. As a result, it is vitally important in the psychotherapy of these patients to adopt above average care in order to maintain the therapeutic alliance and pay special attention to therapeutic relation phenomena that may lead to the weakening of the alliance.

MMPI-2 (Minnesota Multiphasic Personality Inventory) is one of the tools which measure ego strength. It is one of psychological personality tests that are most commonly used in the world and it includes the ego strength scale (SE). It was created by Barron in 1953 [21] to forecast neurotic patients' reaction to individual psychotherapy. The SE scale may be treated as an indicator of general psychological adjustment (the higher the sten scores in the scale are, the better the psychological adjustment and the more favourable prognosis for a therapy are). However, it is difficult to expect from patients with neurotic and personality disorders to have high ego strength since, from the very assumption, deficits related to insufficiently developed ego occur in these patients. Therefore, both appropriate diagnostics which considers the output value of the patients ego strength and the therapeutic interaction aiming at strengthening the patients' ego strength seem crucial in the treatment of patients with neurotic and personality disorders [21].

## Aim

The assessment of the initial level of ego strength in patients at the onset of treatment and the determination of the group psychotherapy effect on the ego strength level in patients receiving treatment for neurotic and selected personality disorders (F40-F48, F60, F61 according to ICD-10).

Study Hypothesis

As a result of group psychotherapy with elements of individual psychotherapy an increase in the ego strength of patients receiving treatment for neurotic disorders (F40-F48) and personality disorders (F60 and F61) is observed.

## Materials and Methods

Study Group

82 patients participated in the study. They received treatment of intensive group psychotherapy in a daytime ward between September 2013 and April 2014. They constituted 72% of all individuals qualified for the treatment at the ward at that time. The remaining 28% were not included in the study due to questionnaires being filled up incompletely (21%) or the premature completion of the treatment (drop-out) – 7 % [22].

The qualifying criteria which had to be met to be entered into the study group included the patients' diagnosis of disorders ranging from F4x, F60 or F61, under the diagnostic criteria of ICD-10 classification [23] and the duration of treatment amounting to 10−14 weeks.

The excluding criteria included a lack of qualification for the treatment (the diagnosis of somatic background for the patients' disorders, organic changes CNS, psychotic disorders), the completion of treatment before its scheduled end (drop-out) and a lack of consent in the study participation.

At the stage of qualification for the therapy each examined person had two consultations with a psychiatrist and one with a psychologist [24−26]. The data gathered during the consultations complemented with the results of diagnostic tests (Symptomatic Questionnaire "O" [27], Neurotic Personality Questionnaire KON-2006 [28−31], MMPI-2 questionnaire [22]) constituted the basis for a disorder diagnosis under the ICD-10 classification criteria [23].

Women comprised 74% of the examined group (61 persons), whereas the percentage of men was 26% (21 persons). The median age of the examined persons was 31.5 with 21 being the youngest, 56 the oldest and standard deviation amounting to 6.9. At

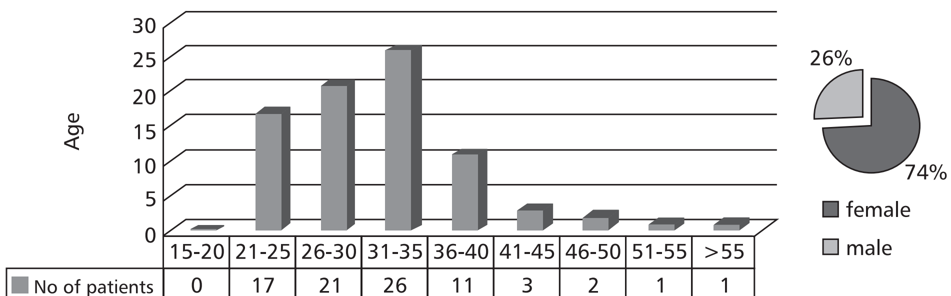
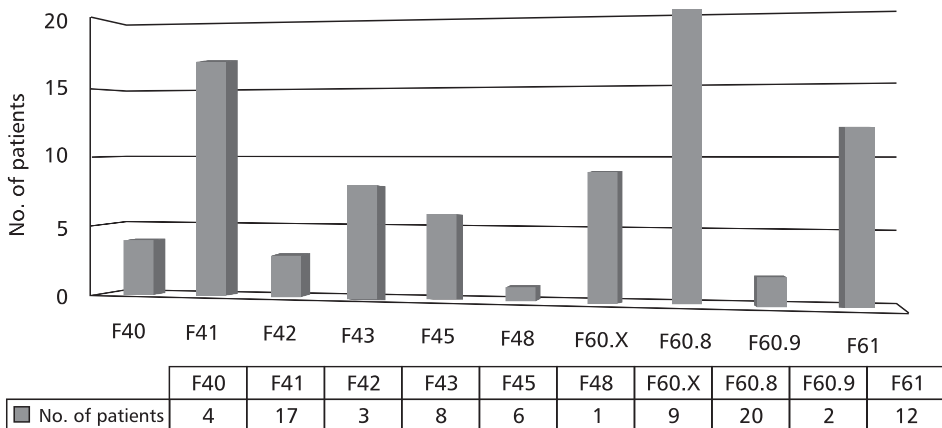



Figure 1. **Distribution of age and gender of patients in the study group**

the diagnosis stage 64 persons from the study group ranged from 21 to 35 years old, 11 persons aged 36−40, 3 persons of 41−45, 2 patients of 46−50, and 2 above 50 (Figure 1).

During the qualification for the treatment procedure 48% of the study group were diagnosed with neurotic disorders (F40-F48) as a primary diagnosis: F41 (other anxiety disorders) – 17 persons, F43 (reaction to severe stress and adjustment disorders) – 8 persons, F45 (somatoform disorders) – 6 persons, F40 (phobic anxiety disorders) – 4 persons, F42 (obsessive-compulsive disorders) – 3 persons, F48 (other neurotic disorders) – 1 person. Personality disorders were diagnosed in 52% of the examined persons, whereas 20 persons were diagnosed with other personality disorders (F60.8). 12 persons had mixed personality disorders (F61) and specific personality disorders were diagnosed in 9 persons (F60.0−F60.7). Finally, 2 persons were diagnosed with personality disorders, unspecified (F60.9) (Figure 2-3).




| | F40 | F41 | F42 | F43 | F45 | F48 | F60.X | F60.8 | F60.9 | F61 |
|---|---|---|---|---|---|---|---|---|---|---|
| No. of patients | 4 | 17 | 3 | 8 | 6 | 1 | 9 | 20 | 2 | 12 |

Figure 2. **Patients' initial diagnosis in the study group**

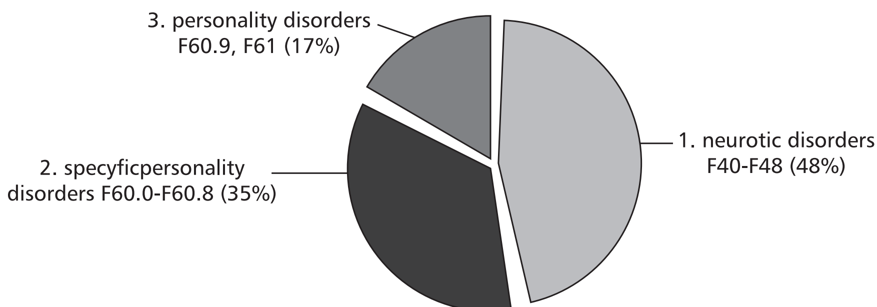



Figure 3. **Patients' initial diagnosis in the study group – percentage distribution of neurotic disorders, specific personality disorders and mixed/unspecified personality disorders**

60% patients who participated in the study received treatment before midday, whereas the remaining 40% attended afternoon sessions. The group allocation whether a person would attend a morning or an afternoon session was based on the data received from the qualification procedure in consultation with the patient and with the consideration of their life situation [22]. The patients were allocated to specific groups of the recommended treatment mode (before or after midday) on the basis of the patients' waiting list for the treatment (no selection was based on diagnosis) [22].

Each of the six therapeutic groups, which worked concurrently, most of the time comprised of 8−10 patients (semi-open groups). The length of treatment most frequently amounted to 12 weeks. In substantively justified cases the therapy was extended up to 14 weeks (applicable to 5 persons) or shortened (e.g. due to random events which prevented a patient from completing the full 12 week treatment) −1 person.

The detailed description of the psychotherapy carried out at the ward can be found in the works of Mazgaj and Stolarska [24], Mielimąka et al. [32] and Cyranka et al. [22].

The measurement of ego strength was conducted twice: at the onset of the treatment (at the therapy qualification stage) and at the end of the ward stay. In all MMPI-2 questionnaires submitted by the patients an evaluation of the results in control scales was carried out before the inclusion of the results into further analyses. The interpretation guidelines for the ego strength scale provided by the Psychological Test Lab (Table 1) [21] served as a point of reference for the interpretation of the measurement results.

Table 1. **Interpretation of the Ego Strength Scale**

| High (T > 64) | Medium (T = 40−64) | Low (T < 40) |
|---|---|---|
| General good psychological adjustment, positive therapy prognosis, good relationships with others, effective mechanisms of coping with stress. | Not interpreted | General poor psychological adjustment, negative therapy prognosis, limited psychological resources of coping with problems. |

The analysis of changes in ego strength was carried out with STATISTICA 10 licensed package. The result distribution was compared with Kolmogorov-Smirnov Test and the chi-squared test. The significance of the differences was verified against the Student's t-test for paired samples. In statistical analyses and conclusions the alpha significance level equivalent to 0.05 was adopted. The size of the effect was calculated with d-Cohen co-efficient.

## Results

The comparison of the measured ego strength at the onset and the end of the intensive psychodynamic psychotherapy for the whole group was carried out with the gender and the preliminary diagnosis division, which entailed the isolation of the 3 following subgroups: neurotic disorders, specific personality disorders (F60.0–F60.8) and unspecified/mixed personality disorders (F60.9 and F61) (Table 2 and 3).

Table 2. **Ego Strength Scale – entire group/women/men**

| | MEAN P | MEAN K | SD P | SD K | DIFFERENCE | t | p |
|---|---|---|---|---|---|---|---|
| ENTIRE GROUP (N = 82) | 46 | 51 | 8.1 | 10.1 | 5 | -5.66 | < 0.01 |
| WOMEN (N = 61) | 46 | 51 | 7.7 | 10.3 | 5 | -4.38 | < 0.01 |
| MEN (N = 21) | 44 | 51 | 9.0 | 9.8 | 7 | -3.72 | < 0.01 |

P/K – measurement results carried out at the onset (P) and the end (K) of the treatment; t-result of Student's t-test

Table 3. **Ego Strength Scale – results in groups derived according to initial diagnosis**

| DIAGNOSIS | MEAN P | MEAN K | SD P | SD K | DIFFERENCE | t | P |
|---|---|---|---|---|---|---|---|
| F60.0-F60.8 (N = 29) | 45 | 51 | 7.1 | 9.1 | 6 | -3.98 | < 0.01 |
| F40.0-F48.0 (N = 39) | 46 | 51 | 9.0 | 11.0 | 5 | -3.71 | < 0.01 |
| F60.9, F61 (N = 14) | 44 | 49 | 7.4 | 9.7 | 5 | NA* | NA* |

P/K – measurement results carried out at the onset (P) and the end (K) of the treatment.
* Student's t-test was not performed due to insufficient number of patients in this group

The comparative analysis with the use of the Student's t-test for related measurements, which was carried out for the measurement of ego strength values at the onset and the end of the therapy, demonstrated a statistically significant positive change both for the entire examined group and the groups which considered the gender and diagnosis distribution. Separate analyses were performed for the neurotic disorders F40.0-F48.0 and personality disorders F60.0-F60.8; group of persons with diagnoses F60.9 and F61 did not allow to perform separate Student's t-test due to small number of subjects (14 people). The results of the analysis show a significant increase in the patients' ego strength as a result of psychotherapy effect.

The percentage analysis of the results at the onset and the end of the treatment demonstrates that although the total number of persons who were placed in the moderate result range of ego strength value did not significantly change, as a result of the psychotherapuetic effect the number of individuals in the high range of results increased (2.5% at the onset and 7% at the end) and the number of people obtaining low results decreased (from 18% to 13%). The percentage analysis of result distribution in the treated population at the end of the therapy comes closer to the result distribution obtained by the general population not subject to any treatment. The analysis of specific results of the study participants demonstrates that the decrease in ego strength occurred merely in 7 patients (8.5%), whereas 72 patients (87.8%) experienced the increase in the value of ego strength (in the majority of cases staying in the moderate value range with a shift from low-end values of the range to the high-end ones located closer to the threshold). No change in the measurement results of ego strength was observed in 3 persons (3.7%). In the majority of patients whose results at the beginning and at the end of the treatment were in the moderate area, ego strength increased.

The analysis of Effect Size changes obtained as a result of psychotherapy in the examined group of patients (with reference to the norms determined by Cohen [33]) suggests high efficacy of therapeutic interactions which were applied (ES = 1.24).

## Discussion

When analysing the results in the study group both at the onset and the end of the treatment for the entire group and with the gender and preliminary diagnosis subdivisions, a statistically significant change in sten scores was observed, this suggests a beneficial increase in the patients' ego strength. Simultaneously, the median measurement value of ego strength in the individuals qualified for the treatment was located at the sten score level which indicated a positive prognosis of the therapy course. That seems significant in the context of diagnostics and a qualification for treatment.

From a clinical perspective, the positive change in ego strength range, which was observed in the patients, suggests that as a result of the treatment the patients obtain a significantly better psychological adjustment and a wider range of mechanisms which let them cope with stressful situations and daily difficulties more effectively. It is in line with Gordon's findings [34] which emphasised the inversely proportional relation between the results of clinical scales and an ego strength level. The new finding that results from the study is the fact that the obtained change occurred as a consequence of psychotherapeutic interactions within 3 months, and not 2−3 years, as postulated by Gordon who believed it to be the essential time for the improvement to take place (assuming one therapeutic meeting per week). Therefore, the study results constitute a valuable supplement to the knowledge of the range of personality functioning changes which can be obtained as a result of intensive group psychotherapy conducted in daytime ward conditions [25, 31, 35, 36]. They offer a premise for the thesis that the treated patients not only experience the subsidence of neurotic symptoms, but also the increase in the personality resources through a change into more mature functioning mechanisms of ego [37−41].

What seems important is the fact that the significant increase in the ego strength range was observed both in women and men. No differences were noted between patients diagnosed with specific personality disorders and neurotic disorders both in the initial and final results. A significant value increase in ego strength scale in both groups was observed. That suggests favourable changes in the scope of the ability to cope with daily stressors, better general adjustment, realistic self-esteem and a wider range of interpersonal competence. However, it should be noted that the distinction into subgroups was carried out on the basis of the primary diagnosis established at the onset of the therapeutic process. Clinical observations suggest that in the course of psychotherapy a patient often demonstrates characteristics which require altering or supplementing the diagnosis. Furthermore, in many instances neurotic disorders co-occur with personality disorders, both specific and hypothetical neurotic personality, of which existence postulate Aleksandrowicz et al. [28–31]. Thus, the results of the study in that respect shall be limited to the observation that establishing the preliminary diagnosis of a neurotic disorder group (F4x) at the qualifying procedure for the treatment

does not lead to the isolation of a group of patients with higher ego strength when compared to the group that was isolated based on the diagnosis of specific personality disorders (F60.0–F60.8) in the process of qualifying for the treatment.

While analysing the data from a clinical perspective, it can be observed that as many as 72 out of 82 patients showed improvement in functioning, which was related to the increase in ego strength. Concurrently, one may wonder why at the end of the therapy most patients did not manage to obtain results interpreted as high ego strength which signifies very good psychological adjustment. A partial explanation is offered by Piper et al. [42] who in their observations concluded that a significant increase in resources occurs as a result of the confrontation of the results achieved in psychotherapy with life tasks which strengthen the changes obtained. Such observation suggests that a catamnestic study (follow-up) should be conducted in the future. What could make undoubtedly a valuable contribution as well is to refer the findings obtained to the measurement results obtained in the control group, not limiting it only to the reference guidelines for general population developed by the Psychological Test Lab [21] as it was performed in this study. It stands to reason to conduct a further comparative study of the changes obtained in ego strength with the changes in symptoms and personality functioning which would be measured with the use of research tools utilised in the diagnostics of patients undergoing treatment for neurotic and personality disorders (e.g. Symptomatic Questionnaire "O" [27], Neurotic Personality Questionnaire KON-2006 [28–31], STAI, MMPI-2 [22]. This type of research is being planned to be conducted in the near future.

At the same time it should be considered that the majority of patients in the study group at the onset of the treatment were identified within the moderate range of ego strength, which indicated a positive prognosis of the therapy. Another suggestion which stems from the conducted study and seems significant in the process of the treatment qualification is the fact that patients who start the treatment with values of ego strength within the low range undergo beneficial and clinically significant changes as well.

The results of the study also demonstrate that unfavourable changes in personality functioning measured with ego strength occur relatively on rare occasions in the course of intensive psychotherapy conducted in daytime ward conditions. Only 7 persons in the examined group (8.5%) were observed to experience ego strength decrease during psychotherapy sessions, whereas in 3 individuals (3.7%) ego strength remained at the same level. The results are in line with other studies of intensive psychotherapy efficacy conducted in daytime ward conditions [24–26] and serve as a valuable addendum to them, offering conclusions about changes in ego strength ranges. The study results constitute a further premise on the way to establish intensive psychotherapy carried out in a daytime ward model as a safe and efficient method of neurotic and selected personality disorder treatment.

## Conclusion

As a result of applying group psychotherapy with elements of individual psychotherapy the majority of patients are observed to have increased their ego strength. That

suggests that the patients obtain a much better general psychological adjustment and a wider range of coping mechanisms as a result of the treatment.

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