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Defense mechanisms in affective disorders – the state of the art

Marta Mrozowicz-Wrońska

Faculty of Psychology and Cognitive Sciences, Adam Mickiewicz University in Poznan

Summary

Defense mechanisms are unconscious, automatic processes that allow us to cope with tension and stress. They play a significant role in maintaining mental health, but the use of some of them, especially immature ones which strongly distort reality, can be associated with psychopathological symptoms. Multiple studies show a relationship between immature defensive styles and mood disorders. Individuals with depressive and bipolar affective disorders use more immature mechanisms compared to non-clinical control groups. At the same time, they rely less on mature, adaptive defense mechanisms. Immature defense mechanisms may negatively affect the course and effectiveness of treatment, while improvements toward the use of more mature defenses due to psychotherapy and other treatment interventions are observed.

Estimation of the maturity level of defense mechanisms may prove useful in the diagnostic process, especially in differentiating depressive disorders from anxiety disorders, differentiating between subtypes of mood disorders and in assessing the risk of suicidal behavior. Enhancing mature defense mechanisms and reducing reliance on immature ones may improve the overall functioning of patients with mood disorders and contribute to reducing the severity of psychopathological symptoms.

Key words: affective disorders, defense mechanisms

Introduction

Defense Mechanisms

Defense mechanisms are unconscious, automatic processes that, by distorting reality perception, help us cope with tension and stress resulting from sudden changes in the external environment or in our internal world [1]. These are processes of particular importance for our psychological well-being and the repetitive usage of a particular cluster of defenses builds a specific personality trait [2]. The concept of a defense mechanism was introduced by Freud in a paper he wrote with Breuer [3]: *Über den*

psychischen Mechanismus hysterischer Phänomene: Vorlänfige Mitteilung. It was essential for his theory and psychoanalytic therapeutic practice, and repression was the most important defense mechanism in his model [4, 5]. Defense mechanisms, similarly to coping strategies [6], are a way of adapting to disturbances in one's equilibrium, but the two should be differentiated [7]. Coping strategies are commonly known ways to solve a problematic situation; they are used deliberately, consciously, and require effort. Defense mechanisms are unconscious, unintentional and, therefore, effortless; they are more aimed at altering an internal mental state and are determined by personality traits. Both defense mechanisms and coping strategies can be associated with health or pathological functioning [7].

The effect of defense mechanisms on our mental state depends primarily on the level of their maturity, age-appropriateness, and their adequacy to the situation the person is trying to cope with. Massive denial of reality and escape into fantasies may be the only way to cope with an extreme situation, e.g., when a very young child tries to cope with domestic violence or when an adult is tortured, but under normal conditions in an adult it is associated with functioning at a psychotic level [1, 2, 7]. The maturity of defense mechanisms refers to how strongly they distort the reality perception, whether this distortion is reversible and the consequences of their use on well-being of the individual and the quality of his/her social relations [1].

Vaillant [1] suggested dividing defense mechanisms into four groups:

1) psychotic – psychotic projection, denial, distortion;
2) immature – projection, fantasy, hypochondriasis, passive aggression, acting out, dissociation;
3) neurotic – repression, displacement, intellectualization, reactive formation;
4) mature – altruism, sublimation, suppression, anticipation, humor.

Psychotic mechanisms are the most primitive and their basic feature is distortion of reality; immature ones protect from experiencing stress but may lead to socially unacceptable behavior and are very disruptive to the social environment. For example, acting out can take the form of vandalism or violence, and hypochondriasis forces others to pay attention to the individual's somatic symptoms and take various actions that are mostly ineffective [1]. Neurotic defenses (quite common) are less disruptive to the social environment, the distortion of reality is in their case small and they are easily subjected to therapeutic intervention; and finally, mature mechanisms are standard equipment of adolescents and healthy adults. Vaillant's concept became the basis for a popular tool in the research in the field of psychopathology – Defense Style Questionnaire [8].

Another hierarchy important in research on defense mechanisms is the one proposed by Perry [9, 10] involving the following levels:

- action – acting out, help-rejecting complaining, passive-aggression;
- major image-distorting (borderline) – splitting of others' images, splitting of self-images, projective identification;

- disavowal – denial, projection, rationalization, autistic fantasy;
- minor image-distorting (narcissistic) – devaluation of self-images, devaluation of others' images, idealization of self-images, idealization of others' images, omnipotence;
- neurotic – repression, dissociation, reaction formation, displacement;
- obsessional – isolation of affect, intellectualization, undoing;
- highly adaptive (mature) – affiliation, altruism, anticipation, humor, self-assertion, self-observation, sublimation, suppression.

To measure the defense mechanisms corresponding to this hierarchy, Perry [10] created a tool for coding observational material (e.g., clinical interview) – the Defense Mechanism Rating Scale (DMRS). This scale allows for the calculation of an Overall Defensive Functioning (ODF) index, which is a measure of overall defensive functioning. The more mature defenses a person employs, the higher the score she/he gets.

In performing of the following review, two selection criteria were used: the study sample and the method of measuring defense mechanisms. The study group had to include individuals diagnosed with mood disorder symptoms, and the measurement of defense mechanisms had to be conducted using validated questionnaire or observational tools. When the study is described in detail, the information about the employed method of measurement is provided in brackets. The literature analysis focused on studies conducted in the last 30 years, performing a detailed review of the results of Google Scholar searches for keywords such as "defense mechanisms" and "mood disorders". Due to the limited scope of this paper, a selection was made by reporting studies that are representative of a given research problem associated with the role of defense mechanisms in mood disorders.

Defense mechanisms in affective disorders

Research on the relationship of defense mechanisms to psychiatric disorders, including mood disorders, can be assigned to several broader categories. The first category are studies in which clinical groups are compared with nonclinical groups in regard to the maturity of defensive style. The second are attempts to create a defensive profile of a specific disorder by comparing subgroups of patients with different symptoms. Another strand of research estimates the impact of the maturity of the defense mechanism on the effectiveness of pharmacological and psychotherapeutic treatment and monitors the changes that occur in the defense mechanisms as a result of therapeutic interventions. The relationship of defense mechanisms with particularly destructive behaviors such as suicide attempts is also analyzed. There are also studies in which defense mechanisms play a mediating role between a stress factor or predisposition to a given disorder and its actual occurrence.

Depressive disorders

Numerous studies suggest that there is a positive association between mood disorder symptoms and the tendency to use immature defenses and a negative association with the tendency to use mature defenses [11-17]. Furthermore, a shift toward greater maturity of defense functioning due to therapy has been observed [18]. Defense mechanisms also appear to play an important role in moderating the level of improvement achieved in treatment [19].

In a study by Akkerman and colleagues [12], significantly fewer mature defense mechanisms were observed (measured by DSQ-40) in a group of 68 patients with a diagnosis of major depression as compared to a control group. The measurement was repeated after six months and after two years of drug treatment combined with psychodynamically oriented supportive therapy involving half-hour weekly sessions, revealing an increase in the use of mature mechanisms in the clinical group. A reduction in the use of immature defenses was also observed in patients who continued treatment for two years. A study by Spinhoven and Kooiman [13] conducted in a group of patients diagnosed with depressive disorders (including: dysthymia = 35 patients; major depressive disorder, single episode = 35; recurrent major depressive disorder = 16; depressive disorder not otherwise specified = 6; 1 patient was diagnosed with more than one depressive disorder; patients were selected from a sample consisting of 483 referrals to a psychiatric outpatient clinic) revealed a positive association of immature and neurotic defense mechanisms and a negative association of mature mechanisms (measured by DSQ-36) with the severity of depressive symptoms.

One more study is worth mentioning: the longest longitudinal study on health and well-being (The Grant Study), which tracked the life histories of Harvard University students starting in early adulthood and reaching late adulthood. The defense mechanisms were estimated by analyzing extensive material collected over the subsequent years of the project, including interviews with the subjects, their life stories, observations made by the researchers, etc. An analysis of the relationship between defense mechanisms and mental health in this group [16] found that 53% of study participants who had been diagnosed with depression at some stage of their lives were in the bottom quartile in terms of maturity of defense mechanisms, while in the group of men who had never required psychiatric treatment, only 9% showed tendencies toward immature defense functioning. As a side note, the maturity level of defense mechanisms measured between the ages of 20 and 47 was positively associated with psychological well-being between the ages of 70 and 80.

Høglend and Perry [20] attempted to identify defense mechanisms that may be particularly relevant to the severity of depressive symptoms and affect the outcome of treatment. In their study in a group of patients with major depressive disorder (N = 16, including 4 patients with comorbid anxiety disorders and 10 with comorbid personality disorders) the Overall Defensive Functioning score (ODF) was found to be a strong predictor of the level of functioning six months after diagnosis. In patients with rela-

tively poorer improvement (after standard drug and/or psychotherapeutic treatment in the form of supportive psychotherapy performed in weekly sessions) Høglend and Perry [20] observed a stronger tendency to use so-called depressive defenses: passive aggression, acting out, help-rejecting complaining, projective identification, splitting of self – and others' image, projection and devaluation. The association of depressive defenses with the severity of symptoms was also confirmed in a more recent study [21]. In a group of patients with symptoms of depressive disorders (N = 12; 5 patients were diagnosed with comorbid not otherwise specified personality disorder, 1 was diagnosed with comorbid dependent personality disorder), the level of defensive functioning (measured by DMRS and DSQ-88) was studied at the beginning and after the completion of treatment that included pharmacological and psychotherapeutic interventions (consisting of 20 CBT or psychodynamic therapy sessions), and again after 12 months. At the beginning of treatment, the patients showed only a slight tendency to use adaptive defenses, which increased with treatment and remained stronger in the one-year follow-up; the tendency to use immature defenses decreased while no significant changes were found for mid-level defenses. Depressive defenses were strongly correlated with depression severity at the time of completion of treatment. Measurement in the one-year follow-up still showed such a correlation, but it was no longer statistically significant. It should be noted that the study group was small (N = 12) and the role of so-called depressive defenses needs further exploration.

The role of defense mechanisms as a moderator of treatment effects was also confirmed in other studies [19, 22, 23]. Extensive empirical data support the idea that improved functioning following therapy may be related to an increasing tendency to abandon immature defenses in favor of more adaptive ones. Studies confirm the positive impact of psychodynamic and CBT therapy on defensive style [18, 19, 24], and improvement in defensive functioning can appear even after a few days of hospitalization [25]. In a naturalistic longitudinal study [23, 24] in a group of patients (N = 53) with depressive, personality, and anxiety disorders who participated in long-term psychodynamic therapy (from 3 to 5 years), a change toward greater maturity of defense mechanisms (measured by DMRS and DSQ-88) appeared to be positively related to a reduction in depressive symptoms and to the quality of the therapeutic alliance.

Studies also point to the level of defensive functioning as a significant predictor of the risk of suicide attempt in the course of depression. Corruble et al. [26] showed a positive correlation of immature and neurotic defense mechanisms (measured by DSQ-40) and a negative correlation of the mature defense style with the level of impulsivity in a group of 77 patients with depression. Furthermore, the number of suicide attempts was positively correlated not only with impulsivity, but also with the tendency to use immature defenses, primarily: undoing, projection, passive aggression, acting out, splitting, and somatization. In another study, Corruble and colleagues [27] compared the defense style (measured by DSQ-40) of depressed patients with (N = 60) and without a recent suicide attempt (N = 96). Patients with a suicide attempt

revealed a stronger tendency to use immature defenses, primarily: acting out, passive aggression, autistic fantasy, and projection.

A study by Hovanesian et al. [28] compared groups of depressed patients admitted after a suicide attempt (N = 24) with patients without a suicide attempt (N = 49). The use of reality distorting defense mechanisms (measured by DSQ-36) such as isolation, dissociation, devaluation, splitting, and denial were associated with a greater chance of a suicide attempt. When the effect of the defensive style was controlled, the relationship between the intensity of the symptoms and previous suicide attempts was not statistically significant. According to the authors, this indicates that suicidal behavior is mainly influenced not by the severity of the symptoms themselves, but by how the patient copes with them.

The defense profile in depressive disorders seems to be different from that of anxiety disorders. In a study by Blaya et al. [29], patients with major depression (N = 28) were more likely to use immature defense mechanisms (measured by DSQ-40), especially projection, compared to patients with anxiety disorders (social anxiety N = 33; panic disorder N = 79; and OCD N = 27). A similar result was obtained in the study by Colovic et al. [30] in a group of patients with depressive (N = 30) and anxiety disorders (N = 30; control group N = 30), where devaluation was also added to depressive defense mechanisms.

More recent studies also confirmed the immature defensive style as a factor that differentiates depressive patients from anxiety patients. Olson et al. [31] conducted a study in a group of students (N = 1182) selecting participants with scores on the Personality Assessment Inventory (PAI) questionnaire within the clinical range. They were assigned to a depressive (N = 25) and anxious group (N = 98) based on their scores on the depression and anxiety subscales. The depressive group relied rather on immature defenses (measured by Defense-Q and DSQ-72), while the anxiety group mostly used neurotic mechanisms. The analyses identified defense mechanisms specific for the depressive profile, including acting out, isolation, and projection. According to the authors, the assessment of defense mechanisms may be a helpful tool for differentiating anxiety and depressive disorders, and the identification of defenses typical of depressive disorder in the patient may indicate the need to take a closer look at possible depressive symptomatology.

Bipolar affective disorders

The role of defense mechanisms in bipolar affective disorder (BD) is less explored and the results of the few studies are not entirely consistent. In studies by Kramer et al. [32, 33], individuals with BD (N = 30 in the first study; N = 18 in the second study) were more likely than the control group (N = 30; N = 18) to use immature defense mechanisms – narcissistic, disavowal and borderline (measured by DMRS). The difference was observed in the intensity of using: omnipotence, rationalization, splitting of others' image, projective identification and acting out. At the same time, people

with BD used mature and neurotic mechanisms less frequently, with the exception of displacement, which they used more often compared to the control group. Mature defense mechanisms, especially self-assertion turned out to be positively correlated with the quality of the therapeutic alliance. However, there were no differences in defense mechanisms on the basis of dominant symptomatology, manic vs. depressive.

Still the association of defense style with manic and depressive symptomatology was observed by Sharma and Sinha [34]. The study included patients with BD I in the current phase of mania (N = 10) and in the current phase of depression (N = 10), as well as patients with depressive disorders (N = 10); DMRS and DMM were used to measure defense mechanisms. The Defense Mechanism Manual (DMM) is a coding system proposed by Cramer [35] to evaluate the use of three defenses: denial, projection, and mature identification. Denial is considered to be the most immature mechanism, and identification the most adaptive. A comparison of defense styles showed that patients with mania used more denial and fewer neurotic defenses compared to patients with BD I in a depressive episode, and more denial, borderline, and narcissistic mechanisms compared to depressive patients. In contrast, the group with BD I in a phase of a depressive episode used more denial, action-based, and borderline defenses compared to depressive patients. As for patients with depressive disorder, this group relied more on mature identification and defenses from the neurotic and adaptive levels. A comparison of the ODF index scores showed that patients with a depressive disorder used generally more mature defenses than patients with BD I and, interestingly, the latter, both manic and currently depressed, did not differ in their ODF scores. The authors note the consistency of their results with psychoanalytic conceptions of affective disorders and suggest that it is the defense mechanisms that may help differentiate depressive patients from depressed patients in the course of BD despite the high consistency of the observable symptoms.

Defense mechanisms have also been considered as a possible mediating factor in the etiology of BD. The association between the experience of trauma in childhood (i.e., physical abuse, emotional abuse, sexual abuse, neglect) and the probability of BD in adulthood is known in the body of research. Wang et al. [36] conducted a study in patients with BD I (N = 44) and BD II (N = 42) demonstrating the important role of defense mechanisms as a factor mediating the association between trauma experience and BD risk [37].

Summary

The above review clearly suggests an important role of defensive style in the etiology, course, and treatment effectiveness in affective disorders. Individuals with depressive disorder and bipolar affective disorder tend to use immature defense mechanisms and have difficulties in using the adaptive ones. The level of defensive functioning can be an important factor influencing the course and effectiveness of treatment, including, for example, the quality of the therapeutic alliance. Treatment procedures, especially

psychotherapy (psychodynamic and CBT), but even a brief hospitalization, can have a positive effect on improving defensive functioning toward the use of more mature coping styles. The diagnosis of defensive style can be useful for clinicians in assessing the risk of suicidal behavior, in differentiating between subtypes of affective disorders, and also in discriminating between them and anxiety disorders. It can also be valuable information for predicting the course of further treatment. Actions aimed at reducing the use of immature defense mechanisms in patients with affective disorders may have a positive impact on improving their functioning and reducing the intensity of psychopathological symptoms.

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Address: Marta Mrozowicz-Wrońska
Faculty of Psychology and Cognitive Sciences
Adam Mickiewicz University in Poznan
60-568 Poznań, Szamarzewskiego Street 89/AB
e-mail: marta.mrozowicz@amu.edu.pl