

A Review of the Impact of Bipolar Disorder on Working Performance

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Abstract: While the symptoms of bipolar disorder (BD) have been recognized for centuries, only recently has attention been directed towards comprehensively understanding the condition's impact on everyday functioning, especially the research on bipolar patients' real-life application in working environment are limited. Despite its significance, the effect of BD on work performance is frequently disregarded or inadequately quantified. Work functioning encompasses an individual's ability to acquire and maintain paid employment as well as engage in meaningful work that aligns with their educational background, skills, aspirations, and expectations. The quality of life in terms of one's health, one's ability to function physically and socially, one's ability to get employment, and one's ability to produce at work are all known to be significantly impacted by BD. Our study aimed to investigate how a specific aspect of executive functioning (EF) in individuals with BD influences work efficiency. The Result demonstrates that Bipolar illness significantly impairs functional abilities as well as work-related outcomes like productivity and job success. BD has a more significant negative impact on outcomes linked to the workplace than depression alone. It is crucial to remember that BD can also be linked to good qualities like creativity, resiliency, and high levels of energy.

Keywords: Bipolar, mainc, depression, cognitive impairments, working efficiency

1. Introduction

Bipolar disorder, a chronic and severe mental illness, manic and depressive episodes are a hallmark of it, having an impact on 1% to 2% of the world's population and can significantly affect a person's functioning and quality of life. Despite decades of research into the etiology, symptoms, and treatments of the condition, BD still needs further study. In addition, there is also an urgent need to increase research related to the treatment of BD.

Some of the first references to BD in medical literature date back to Hippocrates in ancient Greece, and BD has been studied for centuries. The main goals of BD research have been to identify the underlying neural mechanisms, as well as genetic and environmental risk factors. According to numerous studies, there is an increased risk of having BD due to a variety of environmental factors, such as stress and trauma, as well as a variety of genetic variations [1]. Additionally, structural and functional abnormalities in the brain areas responsible for emotion control, thought processing, and reward processing have been found in BD sufferers in earlier studies [2]. BD symptoms have been

known for millennia, but it has only been recently that research has focused on enhancing our comprehension of how the disorder affects daily life functioning.

2. Methods

A comprehensive literature search was conducted in electronic databases, including Google Scholar, PsychINFO, and PubMed. Additionally, manually searches were done including studies that fit the criteria. The studies looked at how BD affected people's quality of life, productivity at work, and functional status. The study's participants all had a diagnosis of BD.

3. Clinical Manifestations of BD

Maniacal and depressive episodes that vary in intensity and duration are a hallmark of bipolar illness. Manic episodes are marked by symptoms including grandiosity, racing thoughts, impatience, increased mood, and decreased desire for sleep. Low mood, loss of interest in activities, exhaustion, and feelings of worthlessness are just a few of the symptoms that define depressive episodes. Those who have bipolar disorder may also go through "mixed" episodes, which include both manic and depressive symptoms.

Bipolar disorder patients may also display cognitive abnormalities, such as issues with attention, working memory, and EF, in addition to these mood symptoms. These deficiencies could endure even during times of remission and could be a factor in the bipolar disorder's decreased functional results [3].

The functioning and quality of life of a person can be significantly impacted by bipolar illness symptoms. BD is known to increase the risk of suicide, and it can also cause social, professional, and financial problems for those who have it [4]. In addition, BD symptoms may make it difficult to maintain healthy interpersonal connections and may harm caregivers and family members. Furthermore, those who have BD may have personal, familial, and societal challenges because bipolar individuals have been found to struggle with maintaining intimate relationships and are vulnerable to hurting their partners [5].

An essential but sometimes undervalued aspect of functioning is a person's capacity for employment. At its most fundamental, this might be seen as a person's capacity to find and keep a job that pays a living wage. At a more complex level, it can refer to a person's capacity to engage in work that they consider to be personally fulfilling, meaningful, and consistent with their educational accomplishments, expectations, abilities, or career objectives, whether such work is paid or unpaid [6].

As mentioned before, sizable fraction of the world's population suffers with BD, a complex and difficult mental condition. Neuropsychological deficiencies and a variety of mood symptoms are common in people with BD, which can affect how well they perform and how they feel about themselves. To improve outcomes for people with the disease and their socialization, further research is required. Many symptoms might negatively affect professional performance in addition to personal life and social interactions. When compared to other illnesses, BD may have a distinctive manner of affecting sufferers from various vantage points.

3.1. Impaired Cognition in Patients with BD

These people have deficits in sustained focus and verbal memory that are trait-related, and some people who have recovered from BD may also have deficiencies in EF and recall of images. Studies have concentrated on determining how BD affects cognitive performance, but it is estimated that a sizeable portion of patients, especially those who are in remission, do not undergo assessment, and cognitive impairment may be to blame for a large portion of the disability linked to the disorder [7].

4. Relationship Between BD and Working Efficiency

A component of the self-help movement that centers on success, goals, and related ideas is personal effectiveness (PE) [8]. Although it incorporates some ideas from “the power of positive thinking” and positive psychology, PE is fundamentally different from the New Thought Movement. PE stands out from its rivals in large part because its practitioners follow a more thorough methodology that takes into account variables other than just positive thinking. For instance, some proponents of PE espouse a methodology that bears resemblance to business process management techniques, while others may adopt a holistic approach that takes into account spiritual and physical wellness.

PE is a topic of interest in psychology and encompasses a number of variables that can affect one’s capacity for time management and goal-achieving. PE, according to McKinney, is a comprehensive idea that includes time management, maintaining an efficient body and environment, and having the appropriate attitudes and mindset toward efficiency. Self-efficacy beliefs, can influence how people feel, think, and act, as well as how much work and perseverance they put into accomplishing their goals [9,10].

According to studies and associated theories, people with BD may experience difficulties at work because of symptoms in a number of different aspects. The fact that some studies have revealed that individuals with BD can function well in demanding job contexts may also have some unforeseen effects. It is crucial to remember that individuals with BD may choose a calm and unhurried work environment to properly control their symptoms [11,12]. Moreover, untreated symptoms may result in disciplinary measures and have an impact on working relationships [13].

4.1. Relation Between BD and Executive Functioning

Nowadays, the term “executive function(s)” (EF) is frequently used as a general term to describe a number of intricate brain processes and sub-processes [14]. It is crucial to remember that executive dysfunction has been demonstrated to have wide-ranging and significant effects in actual-life circumstances, frequently manifesting as incredibly difficult problems with behavior control and regulation. A simple “marshmallow test” was created by Mischel and his associates in the 1960s to gauge preschoolers’ capacity for deferring gratification [15]. Surprisingly, this test showed high predictive validity for long-term social, cognitive, and mental health outcomes over the course of four decades of follow-up investigations. The “cognitive control” mechanisms and their neurological underpinnings deconstruct the phenomenon of “willpower” and the lifelong person by examining the cognitive evaluation and attention management techniques underlying this capacity.

BD has been linked to a severe burden: EF abnormalities. In the literature, there is an ongoing discussion on the precise nature of EF abnormalities in BD. In addition, it has been shown that executive impairments have wide-ranging and profound effects on daily life, frequently resulting in serious issues with behavior control and regulation [14]. In studies, EF, concentration level, cognitive speed, quality of life, and dysfunction have been examined between individuals with BD types I and II, major depressive disorder (MDD), and healthy control subjects. Using chi-square tests, the frequency of deficits on each measurement (Z-score 1.5) was compared between groups, and Z-scores were analyzed within each group using ANCOVA [16]. Using the results of the Hayling Sentence Completion Test (HSCT) which was created by Burgess and Shallice, and modified and defined by Fonseca et al. for use in Brazilian Portuguese [17,18]. HSCT was considered as a gauge of speed of processing (Part A speed), inhibiting (Part B speed, accuracy), and cognitive flexibility (discrepancy between speed A and B). The results show that patients with BDI showed a greater degree of deficits than those with BDII, MDD, and healthy controls in most cognitive processes evaluated, including verbal fluency, HSCT part B completion time, and HSCT discrepancy score. These impairments may be caused by a reduced executive processing efficiency, which would slow down controlling

inhibitions and flexibility in thinking, according to the timed activities used in the assessment. Patients with MDD had impairment rates that were greater than anticipated for the time required to complete part B of the HSCT but lower than predicted for accuracy in the same activity. This indicates that while impaired inhibitory processes may not always be present in MDD patients, it is possible that they may take longer and exert more cognitive effort to complete activities that require inhibitory control on par with healthy adults.

Furthermore, it was found more details about the connection between BD and EF [19]. The researchers' work measured inhibitory control, a component of EF, using the Stroop Color-Word Interference Test [20]. Instead of reading the word's name, participants had to identify the color of the ink that was used to write it. The test measured the participants' execution speed and accuracy. The Controlled Oral Word Association Test (COWAT) - FAS letters style and Animal Name Task were also used to measure phonemic and category fluency [21]. Participants were instructed to remember as many phrases as they could in three separate trials that lasted 60 seconds each. They also had to identify as many animals as they could in the allotted time in a separate test. The Wisconsin Card Sorting measure - 64 Card Version was additionally used as a measure of non-verb idea creation, cognitive flexibility, and feedback processing capability [22]. After each match, participants received feedback on whether their choice of alternative was correct or incorrect. The study demonstrated that there were notable variations in the EF tests. During discharge and follow-up, the MANOVA analysis showed significant relations (Wilks' Lambda; $F(6,48) = 5.1$, $P = 0.0001$, $PES = 0.41$ and $F(6,48) = 6.9$, $P = 0.0001$, $PES = 0.47$). The amount of change during the duration of recuperation, however, was not appreciably different (Wilks' Lambda; $F(6,48) = 2.1$, $P = 0.07$, $PES = 0.21$, Wilks'). The Trail Making Test B, which assesses mental flexibility and the capacity to switch cognitive sets, revealed more significant improvement in the SUD-free (patients without a substance use disorder) group [19].

Additionally, in another study, Torres et al. employed a forest plot to examine the EF of patients. The findings showed a widespread pattern of tasks within the EF area with moderate-to-large impact sizes. In the executive tasks forest plots, there were significant, consistent, and homogeneous impacts for every measure. The researchers used a fixed-effects model, which produced outcomes that were similar to those of a random-effects model. Despite different sample sizes, there was a significant difference, with a 95% confidence level, indicating that we are 95% confident that estimated score for bipolar patients was lower than that of normal individuals [23].

According to earlier studies by, there is currently disagreement in the scientific literature regarding the overall incidence and degree of executive impairments in people with BD [24]. The dearth of a standardized approach for assessing executive success is to blame for this discrepancy. By erroneously assigning executive deficiencies to BD as a whole rather than individually evaluating each form, some studies have failed to distinguish between the two types of BD, raising the risk of type 1/type 2 error [24]. The impact of lingering or subclinical emotional symptoms on people who are in a euthymic state cognitive performance is another possible problem. The reality that various researchers describe euthymia in their patient datasets using different standards or metrics exacerbates the issue. In order to tackle this problem, the most recent research studies have established stringent inclusion standards that demand the least state of mind evaluating scores in the euthymic group. They have also controlled for the impact of any lingering mood symptom variations among patients and the control group if present. Despite the fact that in certain situations, the statistical management of persistent symptoms has led to euthymic patients' cognitive impairments decreasing or disappearing [25].

5. The Problem of Emotion in BD Comparison to Depression

The consequences of mood swings of BD are actually larger than depression and need to be focused. MDD have received the majority of attention in research on the financial effects of mental illnesses

in the workplace, while BD has been largely disregarded. This error resulted from a failure to distinguish between BD and MDD as well as from a failure to consider the financial costs of mania/hypomania in the work environment [26]. In this study, the World Health Organization Composite International Diagnostic Interview (CIDI) was employed to assess MDD and BD in the setting of job disability using the WHO Health and Work Performance Questionnaire. The costs of mood disorders at work were calculated through a regression study of 3,378 employees, which showed that 1.1% of them matched the CIDI standards. 6.4% of respondents who completed the CIDI core for 12 months BD (I or II) fulfilled the standards for MDD. According to the research, MDD was linked to 27.2 missed workdays per sick worker per year, whereas BD was linked to 65.5 lost workdays per sick worker per year. The results show that both BD and MDD seriously impede the ability to function at work. MDD is expected to cost \$36.6 billion in lost productivity at work, and MDD plus BD is assessed to cost \$50.7 billion. About two-thirds of all illness-related expenses at work are attributable to presenteeism. Furthermore, MDD has a higher aggregate impairment due to its higher prevalence than BD, despite the latter's individual association with significantly more lost job performance. It is critical to conduct a BD history screening before starting antidepressant treatment because these drugs can hasten the development of mania.

Through the discussion, Kessler makes the suggestion that more attention should be paid to the BD group since they cannot only be characterized as going through a depressive state. The manic and depressive periods taken together may have a larger impact on a person's capacity to perform at work, although the depressive phase of BD may raise the majority of worries. In fact, there is evidence prove that Workplace productivity may suffer as a result of the unfavorable effects that BD may have on occupational functioning. Several quantitative investigations have demonstrated that BD can have a serious and frequently long-lasting deleterious influence on occupational functioning, according to a study posted on PubMed. The capacity to labor is a crucial but occasionally under-recorded aspect of functioning. Several quantitative studies have already demonstrated that BD can negatively affect occupational functioning in a serious and frequently long-lasting manner [27].

6. Positive Sides of BD

Mental illnesses such as BD are commonly associated with stigma and viewed as harmful. Hayward conducted a study using a questionnaire on self-esteem and feelings of stigmatization to explore the relationship between mood, self-esteem, and stigmatization. The findings demonstrated that mood and self-esteem are related, whereas sentiments of stigmatization appeared to be largely independent of mood [28]. However, some relationship between self-esteem and stigmatization is suggested. Proudfoot explained that diagnosing BD can be difficult due to the factor of stigma [29].

It's crucial to understand, though, that there may be benefits to having a mental condition of BD. There is a link between BD and elevated positive emotions [30]. In comparison to controls, we found that people with BD have higher levels of positive affect in a variety of facets of everyday living. Additionally, people with BD have reported greater success in achieving lofty objectives [31,32]. Additionally, the experience of having this disease may result in the development of particular personality traits that are typically regarded as ethically or socially important and helpful, such as resilience, faith, sensitivity, creativity, and realism.

The findings of one study from Princeton University and Harvard University, titled "Manic Thinking," strongly corroborate the thesis. According to the study, the pace of thought has an impact on an individual's mood. The researchers manipulated thought speed by having participants read statements at a predetermined pace that were designed to elicit either a depressed or an elated mood. The results showed that when reading the elation-inducing statements, participants experienced more positive mood compared to when reading depression-inducing statements. Additionally, participants experienced a rise in positive mood regardless of the mood-inducing statement when they were

reading at a fast pace as opposed to a slow one. This effect was not limited to mood alone but also extended to other experiences typically associated with mania, such as a sense of power, creativity, energy, and inflated self-esteem or grandiosity [33].

7. Suggestion

Given the paucity of studies on the positive sides of BD in the workplace, future study should concentrate on examining how people with BD might take use of their special traits to activate their potentials and increase productivity and success. This may entail locating more accommodating work environments that enable people with BD to function at their best, such as flexible scheduling or alternate work arrangements. Additionally, raising awareness and understanding of BD can aid in lowering the stigma attached to the illness and inspire people who are affected to reach their full potential in all spheres of life, including the workplace. By following these actions, we may aim to develop a better therapy strategy so that more people with some mental health issues can be acceptable for employment.

8. Conclusion

According to the literature, BD significantly impairs employment, productivity, and functional status, among other factors of working efficiency. BD illness was revealed to have a stronger detrimental effect on outcomes connected to the workplace when compared to primarily depression. It's crucial to understand that BD can also lead to positive traits like creativity, resiliency, and high levels of energy.

In such a scenario, it's vital to support individuals who have BD in maximizing their talents and minimizing their shortcomings, and effective solutions should be put into place to promote their success in the job. Inclusions included include the delivery of programs for vocational rehabilitation, psychoeducation, and workplace adjustments. Employers and coworkers can take advantage of people with BD's special capacities and talents by encouraging their success.

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