Development and Psychometric Investigation of Career Problems Inventory for Bipolar Disorder Patients

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Abstract

**Background:** In order to measurement of career problems of bipolar mood patients, this study was performed on the 108 people that were selected by purposeful sampling, which were consisted of two sample groups (non-clinical participants, N= 53) and (bipolar participants, N= 55).

**Method:** The inventory is including 81 items. In order to determine the reliability of CPI-BD was used internal consistency and temporal stability method. Factor analysis was investigated and content, construct and convergent validity of the CPI-BD was evaluated.

**Results:** Coefficient Cronbach's alpha was .81 (non-clinical participants, N= 53) and .96 (bipolar participants, N= 55). ($p<0.05$) and showed good internal consistency. Also in temporal stability method test-retest reliability about 7 weeks later, includes 35 participants from both the non-clinical participants and bipolar patients obtaining a reliability coefficient of .91 ($p<0.01$). Convergent validity of this inventory was examined with Bipolar disorder symptom inventory (BDSI) and correlation coefficient was obtained $r=.79$ (non-clinical participants, N= 53) and $r=.78$ (bipolar participants, N= 55) ($p<0.01$). In exploring factor analysis using varimax rotation nine sub-scales were extracted, including: communication problems, poor work performance, insecurity, grandiosity, unreliability, change seeking, vulnerability, lack of boundary, lack of self-control with the opposite sex.

**Conclusion:** The career problems inventory–bipolar disorder form is a valid and reliable inventory to measure career problems among bipolar patients.

Introduction

Career problems among bipolar patients after schizophrenia patients are more prevalent [2, 3, 4] than other patients with psychiatric disorders [1], and they have the first place and the most career dysfunction among other psychiatric patients. Symptoms of this disorder are described in terms of recurring episodes of mania or hypomania and periods of depression, and this defective cycle leads to many career problems [5, 6, 7].

Career problems of these patients are different from others, and they have their own career problems [8] including: having more absenteeism from work than other mental patients [9, 10], having prolonged and sustained unemployment [11, 12, 13, 14], having low work productivity [15, 16], having high rate of termination of the employment contract [17], imposing a significant financial burden on employers [18], getting a stigma in the workplace [18, 15, 19], having decreased number of hours worked [16, 20], lack of insurance or covering by Medicare [16], getting fired or laying off [21, 22, 16] and sliding in occupational statues [9].

Despite these career problems, about 80% of bipolar patients have prolonged unemployment about two years or even more, and usually they are workless [23, 24, 25]. Less than 20% of bipolar patients reported that they had never lost their jobs due to their illness and about two-thirds or even more of them were lost their work [26, 27]. Long-term unemployment in these patients is associated with the rate of panic disorder, a lifetime of alcohol and drug abuse [11]. Long-term unemployed resulted in bipolar patients get older than their age group and miss out on job opportunities that are age-appropriate and experienced a longer period of depression [20, 28, 29, 11, 30].

Unlike the emphasis literature on various career problems among bipolar patients, up to now it seems that there have been any tools to measure career problems among bipolar patients, and it may be an effective strategy for detecting and manage their career problems. Due to the urgent need for an instrument for measuring career problems in bipolar patients and removing this gap, the present study was aimed to construct and investigated the validity and reliability of this inventory for assessing career problems in bipolar patients.

Method

**Participants**

The sample consisted of 55 bipolar patients and 53 non-clinical populations that were working or had a history of employment and agreed to participate in this study. They were interviewed and diagnosed by a psychiatrist with the clinical interviews according to the DSM-5 [31] criteria. All of the participants had the right to have a secret name, and to all was given that confidence the results will be private.

Non-clinical participants included 38 (58.5%) women and 22 (41.5%) men, whose mean age was 41.56 years (SD= 10.032). The maximum age was 63 years, and the minimum age was 22 years. The lowest level of education degree was illiterate and the highest level of education was doctoral degree, and they included 1 (1.9%) person illiterate, 1 (1.9%) person with elementary school degree, 1 (1.9%) person with high school degree, 5 (9.4%) person with diploma, 2 (3.8%) person with associate degree, 7 (13.2%) person with bachelor degree, 28 (52.8%) person with master degree and 7 (13.2) person with a doctoral degree (both physician and PhD). 19 (35.8%) person were single, 32 (60.4%) person was married and 2(3.8%) person was divorced.

Furthermore the bipolar patients group included 21 (37.2%) women and 34 (61.8%) men, whose mean age was 37.47 years (SD= 8.52). The maximum age was 69 years, and the minimum age was 22 years. The lowest level of education degree was elementary school and the highest level of education was doctoral degree, and they included 2 (3.6%) person with elementary school, 2 (3.6%) person with high school degree, 17 (30.9%) person with diploma, 4 (7.3%) person with associate degree, 18 (32.7%) person with bachelor degree, 8 (14.5%) person with master degree and 4 (7.3%) person with a doctoral degree (both physician and PhD). 17 (30.9%) person were single, 29 (52.7%) person was married and 7 (12.7%) person was divorced and 2 (3.6%) person were in suspension situation.

**Measure**

Participants completed a demographic survey that identified the examinee's age, sex, and education degree, bipolar disorder symptom inventory (BDSI) and career problems inventory-bipolar patient's disorder (CPI-BP).
Bipolar disorder symptom inventory (BDSI):

The BDSI is a 74 items self-reported inventory used to assess the subtle symptoms of bipolar disorder [32]. The participant is asked to answer with yes (1) or no (0) according to “how much they were affected by the item over their past life”. The highest total score in this inventory means the severity of bipolar disorder. Items 9, 16, 20, 26, 40, 48 and 61 are reversely scored. The inventory has 7 subscales including: communication problems (items: 13, 103, 99, 80, 46, 100, 110, 83, 50, 39, 4, 22, 95, 33, 67, 18, 56, 90, 17, 40, 49, 72, 21, 29, 77, 98, 52, 19 and 53), neuroticism (items: 28, 82, 64, 34, 61, 24, 38, 101, 63, 92, 78, 57, 107, 108, 109, 81, 102, 14, 42, 106, 6, 65, 69, 94, 43, 60 and 1), change seeking (items: 62, 35, 25, 37 and 31), instability (items: 87, 86, 85 and 88), euphoria (items: 51 and 10), dysfunctional problem perception (items: 70 and 26) and depressive thoughts (items: 79 and 48). The internal consistency for the BDSI has been shown to be good (α=.99).

Procedure

Item generation

Firstly, to ensure that the items generated for the CPI-BD were a reflection of this population, we examined about bipolar patients’ career problems from three references, including: interview with bipolar patients, review published articles in scientific journals and interview with psychologists who were expert in bipolar disorder and career counseling research.

Interview with bipolar patients

By using a phenomenological descriptive-type of lived experience method evaluated experiences and mental perception of patients with bipolar disorder from their career problems. Bipolar patients who participated in the interview were selected using the available sampling method. Among participating the volunteers who received a bipolar disorder diagnosis from psychiatrist and those who were willing to participate in the study were selected. The sampling and interviewing continued until when we were satiated in discovering career problems and repetition happened. By psychiatric diagnosis and clinical interview, 48 patients who received a bipolar disorder diagnosis were selected, and the interviews were done.

Published articles in scientific journals

The study was performed using the Meta-analysis Of Observational Studies in Epidemiology (MOOSE) systematic qualitative method [33] and using research articles that addressed the career problems of bipolar patients. For this purpose, electronic search was performed from three databases of EMBASE, Medline and PsychInfo using keywords (employment, job, work, occupation and career) and (bipolar, manic depression and affective psychosis). Bipolar disorders, American Journal of Psychiatry and Journal of Affective Disorder was also selected for manual search. All published articles from the beginning until 2018, which were relevant to this topic and keywords were selected. The title and abstract of the articles were reviewed to select relevant articles. Furthermore the references of related articles were searched to find other possible related articles. The articles were entered into the Endnote software and were evaluated on the based on include and exclude criteria. Include and exclude criteria were used to select the full text of the relevant articles. In the first phase of the search, a comprehensive inclusion strategy was used. All abstracts of the extracted articles were studied, and the predefined criteria were used to retrieve and extract the full text of the selected articles. Initially, 2204 articles were extracted, of which 241 remained after the initial screening. After the secondary screening, there were 54 articles. Finally, 54 articles were selected in accordance with predetermined criteria.

Interview with psychologists

12 experts in the field of bipolar disorder and career counseling that had been doing research and clinical work for at least five years were also randomly selected and interviewed. Sampling and interviewing continued until the results were saturated.

Secondly, after conducting interviews and analyzing the text of the articles and coding them and integrating the codes of these three sources and connecting their categories with each other, a model of career problems of bipolar patients was obtained. Items that reflected the dimensions of career problems in bipolar patients were written. Five experts in bipolar disorder and career counseling research reviewed the acquired career problems and CPI-BD items that wrote based on it for evaluation and confirmation of content validity. The authors revised the items, in light of their feedback. The resulting inventory was an 81-items positively worded self-report inventory answered with yes (1) or no (0) according to “which one of the following items have you experienced in the past or present at the workplace, and that applies to you?”. The Highest total score in this inventory means the severity of the career problem. Items 3, 7, 10, 11, 13, 23, 34, 35, 43, 44, 54, 57, 68, 75 and 80 are reversely scored.

Data collection

After the CPI-BD was developed, ethical approval was achieved. All participants were informed of the nature of the study verbally. From the selected sample by the psychiatrist only those who showed interest in the study were given the inventory. Although, checking was made at the exact response rate, and the entire participants returned the completed inventories. Due to the bipolar patient’s impatience in filling out inventory, a clinical counselor helped them fill out the inventory without bias and interference in the choice of response options.

Results

Because of checking the inventories after were delivered, we had any missing data.

Factor analysis
The 81 items in the CPI-BD were exposed to analysis using the SPSS 16 statistical package [34]. Exploratory factor analysis was used to determine the number and nature of those factors [35]. The result indicated that the 81 items CPI-BD were factorable. The Kaiser- Meyer – Olkin Measure of Sampling Adequacy was .88 indicating a good level of intercorrelations among the items [36]. In addition, Bartlett’s test of sphericity showed that there were significantly sufficient correlations between the items to perform factor analysis, approximate 1.1594 (df = 3240), P < .0001 N=108. Underlying factors were identified based on the eigenvalues and scree test nine factors had eigenvalues over one, and they explained 78.55% of the variance [37]. Factor analysis resulted in an 81 item inventory which loaded on nine factors as shown in Table 1.

Factors derived from factor analysis based on the content include items were labeled. Factor 1 communication problems comprised of 21 items, which includes items regarding the communicational aspects of career problems specifically having interpersonal problems in the workplace, fighting, disobedience, creating and having higher degrees of conflict in the workplace. Factor 2, poor work performance comprised of 19 items, which includes items regarding poor work performance specifically work dysfunction, workplace underperformance and low productivity in the workplace. Factor 3, insecurity comprised 15 items, which included items regarding insecurity and unsafety, specifically doubt their abilities, fear of making mistakes and being blamed by others.

Factor 4, grandiosity comprised 6 items, which included items regarding lack of humility, cooperation and compatibility with others. Factor 5, unreliability comprised 6 items, which included items regarding lack of credit at the workplace, specifically being as an untrustworthy person in the workplace. Factor 6, change seeking comprised 3 items, which included items regarding intolerance of repetitive and monotonous activities specifically leaving and changing job position. Factor 7, vulnerability comprised 4 items, which included items regarding neuroticism, specifically anxiety, fear and crisis intolerance in the workplace. Factor 8, lack of boundary comprised 2 items, which included items regarding inattention to privacy of others specifically interfering in the job duties of others. Factor 9, lack of self-control with opposite sex comprised 2 items, which included items regarding inability to maintain of moral boundaries in relation to the opposite sex.

The full inventory, produces a score between 0 and 81. The mean score and Std. Deviation for the both samples studied were calculated, and the results are shown in table 2.

Furthermore, an independent samples t-test to measure whether the CPI-BD could differentiate between non-clinical participants and bipolar participants was performed. The standard deviation and mean scores of the answers of both groups for each item were compared and the assumption of equality of averages and standard deviation in both groups for each item was rejected, and all the items of the CPI-BD could able to distinguish the non-clinical group from the bipolar disorder group.

Reliability

The reliability of the CPI-BD was investigated using two methods of internal consistency and temporal stability.

Internal consistency

Coefficient alpha was estimated for the total CPI-BD scale and was .96 (N=55, in bipolar participants) and .81 (N = 53, in non-clinical participants) for total items. Due to the low number of questions in some subscales and the low sample size, the internal consistency coefficient for the subscales was calculated by adding the number of both samples [38]. In both groups (N=108) the internal consistency for subscales communication problems, poor work performance, insecurity, grandiosity, unreliability, change seeking, vulnerability, lack of boundary, lack of self-control with the opposite sex was respectively: .97, .97, .95, .89, .91, .77, .89, .68 and .63.

Temporal stability

Furthermore, in order to investigate the reliability of CPI-BD temporal test-retest method was used. 35 participants (both from non-clinical group and bipolar disorder group) were randomly selected out of the 108 participants who were selected as the research sample. They filled out the inventory for the second time and seven weeks after the first time that were filled out it. Total CPI-BD scores were significantly correlated between first time and second time r = .91, P < .000 and for subscales communication problems, poor work performance, insecurity, grandiosity, unreliability, change seeking, vulnerability, lack of boundary, lack of self-control with the opposite sex was respectively: .94, .96, .69, .71, .63, .79, .79, .68 and .84, P < .000 which showed a good stability of the CPI-BD.

Validity

As mentioned in the item generation section content validity of the CPI-BD was investigated and confirmed by five psychologists who were expert in bipolar disorder and career counseling research. Convergent validity of the CPI-BD was investigated by estimating the correlation coefficients between the CPI-BD and its subscales and bipolar disorder symptom inventory BDSI [32]. The total CPI-BD in non-clinical participants and bipolar participants respectively was correlated with the BDSI (r = .79, P<.000, N=53), (r=.78, P<.000, N=55) respectively. The result showed in table 3.

In order to investigate, construct validity of the CPI-BD correlation of each item with the total score of the CPI-BD was examined. All the questions were significantly correlated with the total score of the CPI-BD in both group and were indicating an acceptable and reliable construct validity of the inventory.

Discussion

The Career problem inventory – bipolar disorder (CPI-BD) was developed to measure career problems among bipolar patients. To develop this inventory, Items were generated based on problems commonly reported by bipolar patients and psychologists who were interviewed and previous researches that reported career problems of bipolar patients. Factor analysis resulted in an 81 item with nine interrelated subscales: communication problems, poor work performance, insecurity, grandiosity, unreliability, change seeking, vulnerability, lack of boundary, lack of self-control with the opposite sex.
The dimensions of career problems of bipolar disorder

Communication problems are characterized by a combination of emotional, cognitive and behavioral manifestation like as having irritability, negativism, having disobedience and pessimistic attitude in relationship with others in the workplace. This factor is consistent with previous research [39]. Bipolar patients do not have a good social functioning due to lack of emotional regulation [40], and this often causes high levels of conflict in the workplace [26]. They have some problems in interpersonal relationships, specifically with their boss and colleagues, and they are generally identified in the workplace as a disturbing and inconsistent person, and they have the least work adjustment [41, 42].

Poor work performance is characterized by lack of good work function and satisfactory performance in the workplace that is consistent with previous research indicating the amount hours that bipolar patients work is less than other employees [43, 20, 16]. They are often absent from work and take many vacations due to their poor mood [42, 44, 45, 46, 47]. Lack of continuity and consistency in the work history of these patients [44] and their poor work performance leads to lower income [48]. Finally, they lose their job very quickly [44, 5] and often impose a heavy financial burden on the employer [15].

Insecurity is characterized by a sense of anxiety, fear and unsafe toward work and workplace that is consistent with previous research indicating bipolar patients believe that for them, there is no presence of a good quality supportive relationship in their workplace [41]. The symptoms of these patients are not properly understood [42, 43] and they don't get empathy in the workplace. Delay in getting an accurate diagnosis and receiving rehabilitation services causes the loss of effective disorder management strategies [16]. Bipolar patients often get stigma in the workplace, and it leads, they lose good job opportunities [15, 44], thus most employers are only willing to give them part-time job opportunities [5, 45]. Working in such a difficult situation naturally makes the patient feel insecure or intensifies this feeling and leads to the exacerbation of their career problems [48, 49].

Grandiosity is characterized by a sense of uniqueness over others in which the patient thinks is best and superior, and therefore, must command and not obey anyone, that is highly consistent with characteristics of the bipolar disorder symptoms [50], and previous research indicating that bipolar patients have Entitlement/Grandiosity early maladaptive schema [51], and they don't follow group and organizational policies and behave according to their personal tastes. The grandiosity creates work conflicts and disrupts social relations in the workplace, depriving the patient of the support of those around her and exacerbating career problems and symptoms of the disorder.

Unreliability is characterized by lack of work credit in the workplace that is consistent with previous research indicating that they are often humiliating and ridiculed by their employer and colleagues [49], and not only they don't have a good reputation in the workplace, but they often receive greater stigma [44], and they are excluded from other employees as a destructive, inefficient, or insane person in the workplace [26].

Vulnerability is characterized by inability to cope with workplace stress and disruption of work performance after exposure to stress that is consistent with previous research indicating that high levels of stress and low levels of social support will cause recurrence of depressive attacks in a bipolar patient and jeopardize his or her performance [52, 53, 54]. In fact, due to the inability of bipolar patients to cope with stressful life events, such as work stress, it can lead to recurrence and persistence of the disorder [55] and lead to functional impairment [56].

Change seeking is characterized by an inability to stay committed for a long time to a fixed option and intolerance of repetitive and monotonous options. That is consistent with previous research indicating that bipolar patients have, lack of continuity and consistency in their work history [44] and can't maintain employment [5] and this change seeking will eventually lead to work loss [44].

Lack of boundary is characterized by ignoring the privacy of others and interfering in their affairs. It seems that bipolar patients, due to, they have difficulty identifying themselves and do not set boundaries for themselves, cannot imagine a border or privacy of others, and therefore, are accustomed to ignoring and invading the privacy of others [57].

Lack of self-control with the opposite sex is characterized by an inability to control and manage desires, impulses, feelings and thoughts in relation with opposite sex and inability to delay their fulfillment. Researches indicated that bipolar patients cannot control their desire for the opposite sex, and they are more impulsive than others [58]. Lack of impulse control has been shown in cases such as substance abuse [59], aggression [58] and sexual behavior [60] and leads to functional impairment [61].

The items of the CPI-BD reflected problems commonly reported by bipolar patients and psychologist who were interviewed and previous researches that reported career problems of them.

Psychometric properties

Psychometric analyses were conducted on the CPI-BD and its subscales to investigate the reliability and validity of the inventory.

Reliability of the instrument was assessed by internal consistency and temporal test-retest method, and Cronbach's alpha was .96 (among bipolar participants) and .81 (among non-clinical participants) and \( r = .91, P < .000 \) (in both groups) respectively, and that showed a good and desirable reliability.

The validity of the CPI-BD was examined by content, convergence and construct validity. In order to investigate the content validity of CPI-BD, it was given to five psychologists who were expert in bipolar disorder and career counseling research, and they approved the content validity of CPI-BD. In general, the opinion of the psychologists was that most of the career problems were included in the CPI-BD, and this inventory was carefully and cautiously referring to the various problems of these patients at work and there was almost no problem left by the creators of the inventory. Furthermore, positive and significant correlation of the CPI-BD with BDSI and its subscales indicated the high convergent validity of the CPI-BD.
Construct validity of the CPI-BD was investigated using correlation of each item with the total score of the CPI-BD. High correlation indicated an acceptable and reliable validity of the inventory.

One of the limitations of this study was the lack of other similar tools for measuring the career problems of bipolar patients and comparing the psychometric characteristic of the CPI-BD with other studies. Although Imamura, Kawakami, Naganuma and Igarashi in 2015 [38] development an inventory that is related to bipolar patients’ workplace problems, this inventory was originally designed to measure symptoms of bipolar disorder, and only research has been done on patients who have a work problem and in that article, there is no discussion about the work problems of bipolar patients and its types.

It is suggested that the CPI-BD be conducted in other countries and nationalities with a bigger sample for future research.

**Conclusion**

This study provides evidence of the validity and reliability of the Iranian version of the career problem inventory for bipolar disorder patients. The CPI-BD can be used as a valid and reliable tool in measuring the career problems of bipolar patients, and future research can investigate the psychometric characteristic of it in other nations.

**Declarations**

**Ethics approval and consent to participate**

All ethical principles have been observed in the research process. All participants in the study were fully aware of the purpose of the study and were well informed and participated in the study with complete satisfaction. In addition, the condition of confidentiality and confidentiality regarding the personal information of all participants was observed.

**Consent for publication**

All authors agree that the results of the present study should be published in this journal.

**Availability of data and material**

If the article is published by the journal, the non-confidential data of this research can be made available to the journal.

**Competing interests**

The authors have not conflicted of interest

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**Authors’ contributions**

All authors were involved in the implementation of research and writing.

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Tables
Table 1
Factor analysis for the CPI-BD

| Communication problems | poor work performance | Insecurity | Grandiosity | Unreliability | Change seeking | Vulnerability | Lack of boundary |
|------------------------|-----------------------|------------|-------------|---------------|----------------|---------------|------------------|
| Items                  | Std. loading          | Items      | Std. loading | Items         | Std. loading   | Items         | Std. loading     | Items          | Std. loading | Items          | Std. loading |
| 79                     | .75                   | 33         | .71          | 30            | .80            | 68            | .75             | 3              | .70           | 12             | .74           | 45             | .65           | 70             | .73           |
| 8                      | .72                   | 5          | .64          | 59            | .71            | 28            | .58             | 75              | .67           | 26             | .66           | 24             | .56           | 62             | .59           |
| 41                     | .68                   | 81         | .61          | 53            | .69            | 13            | .54             | 7               | .59           | 54             | .62           | 15             | .50           |
| 78                     | .66                   | 71         | .59          | 25            | .63            | 22            | .46             | 23              | .48           | 80             | .45           |
| 65                     | .66                   | 9          | .59          | 58            | .60            | 56            | .44             | 35              | .46           |
| 74                     | .66                   | 92         | .59          | 42            | .57            | 51            | .38             | 57              | .44           |
| 64                     | .65                   | 32         | .59          | 47            | .51            |               |                 |                 |               |
| 55                     | .63                   | 63         | .58          | 1             | .50            |               |                 |                 |               |
| 14                     | .63                   | 61         | .58          | 38            | .50            |               |                 |                 |               |
| 71                     | .56                   | 46         | .57          | 77            | .49            |               |                 |                 |               |
| 17                     | .55                   | 44         | .53          | 18            | .48            |               |                 |                 |               |
| 21                     | .55                   | 20         | .52          | 37            | .46            |               |                 |                 |               |
| 72                     | .52                   | 31         | .51          | 76            | .46            |               |                 |                 |               |
| 2                      | .52                   | 16         | .49          | 27            | .44            |               |                 |                 |               |
| 39                     | .52                   | 4          | .48          | 16            | .38            |               |                 |                 |               |
| 9                      | .49                   | 19         | .48          |               |                 |               |                 |                 |               |
| 63                     | .49                   | 60         | .46          |               |                 |               |                 |                 |               |
| 40                     | .48                   | 67         | .45          |               |                 |               |                 |                 |               |
| 43                     | .47                   | 11         | .39          |               |                 |               |                 |                 |               |
| 36                     | .39                   |             |               |               |                 |               |                 |                 |               |
| 50                     | .39                   |             |               |               |                 |               |                 |                 |               |

Table 2
The mean score and Std. Deviation for BDSI and its subscale

| Sample                 | scale, subscales | BDSI | Communication problems | poor work performance | Insecurity | Grandiosity | Unreliability | Change seeking | Vulnerability | Lack of boundary |
|------------------------|------------------|------|------------------------|-----------------------|------------|-------------|---------------|----------------|---------------|------------------|
| Non-clinical participant | M                | 7.00 | 1.81                   | 1.22                  | 3.22       | 1.71        | 1.64          | 1.11           | 1.00          | 1.03             |
|                        | SD               | 4.31 | 1.74                   | 1.48                  | 3.15       | 1.59        | 1.65          | 1.17           | 1.28          | .80             |
| Bipolar participant     | Means            | 49.07| 14.74                  | 15.81                 | 13.29      | 5.32        | 5.45          | 2.32           | 3.63          | 1.83             |
|                        | SD               | 1.09 | 4.60                   | 4.56                  | 2.95       | 1.46        | 1.38          | .98            | .88           | .46             |
| Participants                             | Scale and subscales        | BDSI | CPI-BD | Communication problems | poor work performance | Insecurity | Grandiosity | Unreliability | Change seeking | Vulnerability |
|-----------------------------------------|----------------------------|------|--------|------------------------|-----------------------|------------|-------------|---------------|----------------|---------------|
| **Non-clinical participants**           | CPI-BD                     |      |        |                        |                       |            |             |               |                 |               |
|                                         |                            |      |        |                        |                       |            |             |               |                 |               |
|                                         | Communication problems     |      |        |                        |                       |            |             |               |                 |               |
|                                         | poor work performance      |      |        |                        |                       |            |             |               |                 |               |
|                                         | Insecurity                 |      |        |                        |                       |            |             |               |                 |               |
|                                         | Grandiosity                |      |        |                        |                       |            |             |               |                 |               |
|                                         | Unreliability              |      |        |                        |                       |            |             |               |                 |               |
|                                         | Change seeking             |      |        |                        |                       |            |             |               |                 |               |
|                                         | Vulnerability              |      |        |                        |                       |            |             |               |                 |               |
|                                         | Lack of boundary           |      |        |                        |                       |            |             |               |                 |               |
|                                         | Lack of self-control with opposite sex | |        |                        |                       |            |             |               |                 |               |
| **Bipolar participants**                | CPI-BD                     |      |        |                        |                       |            |             |               |                 |               |
|                                         |                            |      |        |                        |                       |            |             |               |                 |               |
|                                         | Communication problems     |      |        |                        |                       |            |             |               |                 |               |
|                                         | poor work performance      |      |        |                        |                       |            |             |               |                 |               |
|                                         | Insecurity                 |      |        |                        |                       |            |             |               |                 |               |
|                                         | Grandiosity                |      |        |                        |                       |            |             |               |                 |               |
|                                         | Unreliability              |      |        |                        |                       |            |             |               |                 |               |
|                                         | Change seeking             |      |        |                        |                       |            |             |               |                 |               |
|                                         | Vulnerability              |      |        |                        |                       |            |             |               |                 |               |
|                                         | Lack of boundary           |      |        |                        |                       |            |             |               |                 |               |
|                                         | Lack of self-control with the opposite sex | |        |                        |                       |            |             |               |                 |               |

**p < 0.01 *p < 0.05**