Clinical Psychology Review 74 (2019) 101782

Contents lists available at ScienceDirect

Clinical Psychology Review

journal homepage: www.elsevier.com/locate/clinpsychrev

Review

Measuring social and occupational functioning of people with bipolar disorder: A systematic review

Nadia Akers*, Fiona Lobban, Claire Hilton, Katerina Panagaki, Steven H. Jones

Spectrum Centre for Mental Health Research, Division of Health Research, Faculty of Health and Medicine, Furness Building, Lancaster University, Bailrigg, Lancaster LA1 4YW, UK

HIGHLIGHTS

- We summarised measures of social and occupational functioning used most frequently in BD samples.
- We present the range and distribution of functioning scores in people with BD across studies using the same measure.
- Six measures were used most often across a total of thirty-eight different measures.
- Around 16% of people with BD are expected to function at a high level.
- Ceiling effects seen for some measures suggest that functioning in BD may have been underestimated during measure development.

ARTICLE INFO

Keywords:
Bipolar disorder
Social
Occupational
Functioning
Outcome measures

ABSTRACT

Previous literature has focused on impaired social and occupational functioning in Bipolar Disorder (BD), however this ignores people who may be functioning well or even exceptionally. This paper presents the first systematic review of how functioning is measured and the range of functioning observed in BD to aid applied research and practice in this area. Identified measures from studies reporting use of a social and/or occupational functioning measure in BD were organised according to frequency of use over the last 10 years, resulting in six measures (Global Assessment of Functioning (GAF), Functioning Assessment Short Test (FAST), Social and Occupational Functioning Scale (SOFAS), Social Adjustment Scale (SAS)), Social Functioning Scale (SFS) and LIFE-Range of Impaired Functioning (LIFE-RIFT). Descriptive statistics of sample scores were extracted and pooled to provide cross-study values for each measure. Around 16% of individuals with BD can be estimated to function at a high level, defined as those falling within two standard deviations of the mean score on each measure. Evidence of a ceiling effect for some measures suggests that BD functioning may have been underestimated during measure development. Future research is needed to further understand higher functioning in people with BD, and factors which may support this.

1. Introduction

Bipolar disorder (BD) is characterised by significant fluctuations in mood, ranging from severe depression to extreme mania and irritability, often accompanied by difficulties in functioning within society. Despite evidence for higher educational attainment in people with BD than the general population, up to 65% are unemployed (Carlborg, Ferntoft, Thuresson, & Bodegard, 2015; Schoeyen et al., 2011). Furthermore, between 30 and 60% of people with BD report limited occupational and psychosocial functioning compared to the general population during euthymia (Andreou & Bozikas, 2013; Macqueen, Young, & Joffe, 2001). However, this suggests that between 40 and 70% of the bipolar population may not have impaired functioning of this type. This group has received much less research attention, and as a result the broader distribution of social and occupational functioning across the BD population has been neglected. There is also evidence that some individuals with BD function at levels higher than those observed in the general population. For example, BD is overrepresented in people with creative talents and occupations (Johnson et al., 2011) and has also been identified in case studies of exceptional individuals such as Ernest Hemingway, Charles Dickens, Tchaikovsky, Vincent Van Gogh and Winston Churchill (Ghaemi, 2011; Goodwin, 2007; Jamison, 1993). Understanding what factors influence functioning outcomes could help inform better interventions to improve these outcomes in BD, but this work requires accurate and consistently applied measurement of functioning.

* Corresponding author.
E-mail address: n.c.akers@lancaster.ac.uk (N. Akers).

https://doi.org/10.1016/j.cpr.2019.101782
Received 8 May 2019; Received in revised form 8 August 2019; Accepted 27 September 2019
Available online 30 October 2019

Most studies investigating functional outcomes in BD have recruited their samples from a range of inpatient and outpatient settings, excluding those not in contact with mental health services, which may itself create a selection bias that negatively influences outcomes observed. Many different measures have been used to assess social and/or occupational functioning in this group including; Global Assessment of Functioning (GAF (American Psychiatric Association, 1994)), Social and Occupational Functioning Scale (SOFAS (Goldman, Skodol, & Lave, 1992)), Social Adjustment Scale (SAS (Weissman, Prusoff, Thompson, Harding, & Myers, 1978)), Bipolar Disorder Functioning Questionnaire (BDFQ (Aydemir et al., 2007)) and Personal and Social Performance Scale (PSP (Morosini, Magliano, Brambilla, Ugolini, & Pioli, 2000)). The large number of different measures of varying psychometric quality used makes it challenging to compare findings across studies (Marwaha, Durrani, & Singh, 2013) and difficult to select optimal measures for future research.

To address these problems, this review will identify the most frequently used social and occupational measure(s) in BD research and extract data from studies employing these commonly used measures to summarise functioning levels, range and distributions across studies in BD. The purpose of this is to help to guide future research in the selection of appropriate measures of functioning, with the ultimate aim of facilitating cross study comparisons, as well as raising awareness of the current range of functioning in BD. Previous systematic reviews have identified commonly used measures to assess outcomes for people with BD (Ávila, Cabello, Cieza, Vieta, & Ayuso-Mateos, 2010; Dean, Gerner, & Gerner, 2004). However, these reviews have not reported on the distribution of functioning across these measures and have conflated measures of functioning and the much wider domain of quality of life which, although it can include aspects of functioning, is also linked to assessments of physical health, pain vitality and mental health (Arnold, Witzeman, Swank, McElroy, & Keck Jr, 2000). The searches for these reviews were also conducted over 12 years ago, therefore updated research into measures of functioning in BD is needed.

1.1. Aims and objectives

The aims of this review were to map how social and occupational functioning has been measured for individuals with BD, to identify which measures have been used most often and to calculate pooled estimates of functioning for the most commonly used measures.

1.1.1. Research questions

1. What measures have been used to assess social and/or occupational functioning in people with bipolar disorder?
2. What measures have been used to assess social and/or occupational functioning in people with bipolar disorder over the past 10 years?
3. What are the distributions of social and/or occupational functioning scores for people with bipolar disorder in all studies using most frequently used measures over the past 10 years?

2. Methods

2.1. Protocol and registration

The protocol was pre-registered on PROSPERO 2018 - CRD42018105350, available from: http://www.crd.york.ac.uk/PROSPERO/display_record.php?ID=CRD42018105350

2.2. Search strategy

Search strategy terms were informed by recent Cochrane reviews investigating either bipolar disorder and/or social and/or occupational functioning in order to find alternative descriptors (Almerie et al., 2018; Justo, Soares, & Calil, 2018; Kinoshita et al., 2013). Test searches were undertaken to refine the search strategy, ensuring that while it was capturing all the relevant papers, it was not including a large number of irrelevant ones. As a result of these test searches, it was decided that a title and abstract search of all the terms within the chosen databases would be sufficient, to avoid resulting in an unmanageable number of irrelevant papers. PsycINFO also provided the option of a keyword search, which was used for this database only.

Limiters were set to include papers published in the English language, peer reviewed journal articles and human participants only.

Group one:

"Bipolar Disorder" or "Bipolar" or "Manic Depression" or "Affective Disorder" or "Bipolar Depression" or "Bipolar I Disorder" or "Bipolar II Disorder" or "Cyclothymic Disorder" or "Mania" or "Manic Disorder" or "Bipolar Affective Disorder".

This group was also combined with the appropriate subject headings/MeSH headings in each database.

Group two:

"social" OR "psychosocial" OR "personal relation*" OR "interpersonal".

Group three:

"employ*" OR "work" OR "job" OR "career" OR "occupation*".

Group four:

"function*" OR "skill*" OR "performance" OR "competence" OR "abilit*".

The search method was as such: group one AND group two AND group four OR group one AND group three AND group four.

2.2.1. Eligibility criteria

Inclusion criteria:

a. The study was published in English and reported primary data.
b. A sample of participants with bipolar disorder, or a sample of mixed diagnoses which reported the scores of those with BD separately.
c. The sample was of working age (mean age $\geq$16 years and $\leq$65 years).
d. A quantitative measure of social and/or occupational functioning was used.

Exclusion criteria:

a. The bipolar sample had a specific comorbidity which may have had a direct effect on cognitive functioning (e.g. learning difficulty, brain damage, and dementia) or is not specified in the DSM-5 as commonly co-occurring with BD I, BD II or Cyclothymia (e.g. personality disorders).
b. The measure assessed social and/or occupational functioning only as part of a measure of general health or quality of life.
c. The measure of social or occupational functioning was only administered after an intervention had taken place, meaning scores could be influenced by the effect of the intervention. If used in an intervention study, only baseline values were acceptable.
d. The study used a bespoke questionnaire designed for that study only with no assessment of psychometric properties.

2.3. Information sources

Databases considered for this review included PsycINFO, MEDLINE, Web of Science, Academic Search Complete and CINAHL. PsycINFO and MEDLINE were chosen as their topic coverage is most relevant for the current review. Scoping searches with advice from the Lancaster University topic librarian were then conducted with the additional databases to see which added additional relevant information without large numbers of irrelevant references. The only additional database which met this criterion, CINAHL, was then added to PsycINFO and MEDLINE as an information source for the review. The initial database search took place in October 2017 and was finalised in October 2018. Titles were imported to DistillerSR (Evidence Partners, Ottawa, Canada), systematic review management software.

2.4. Study selection and data collection process

The initial screening stage was completed by a primary reviewer (NA) and two independent secondary reviewers. Discrepancies between the principal and secondary reviewers were recorded and discussed until agreement was reached. Cohen's kappa was used to check reliability of selection based on agreement between primary and secondary reviewers at initial screening stage (title and abstract).

The principal reviewer located the full text of all papers that passed title and abstract screening and checked them for eligibility. Data was extracted from papers which met the criteria for inclusion using a data extraction form designed for the study by the first author (Appendix A) and inputted into DistillerSR, for data management.

2.5. Data analysis

Following data extraction, included measures of social and/or occupational functioning were ranked based on number of uses in total and numbers of uses over the last 10 years. The three most commonly used measures overall and three most commonly used measures validated for BD over the past 10 years were identified to focus on measures likely to be most relevant to practice. To be classified as validated in BD, the measure was required to have been psychometrically examined for reliability and/or validity in BD. Analysis involved the calculation of pooled means and standard deviations (SD) of scores from studies using each selected measure, weighted based on sample size, giving greater weight to studies with larger samples in accordance with Cohen's formula (Cohen, 1988; Salkind, 2010). Studies were required to have reported the mean, standard deviation and number of participants to be included in the distributional analysis. If studies reported median and interquartile range only, the study data was not included in the analysis as no pooled mean or SD could be calculated. Authors of papers with missing data were contacted to request data and those who provided data were included in the analysis.

3. Results

3.1. Study selection

3095 titles were identified from PsycINFO, MEDLINE and CINAHL databases and screened by title and abstract for inclusion by the primary reviewer. Two independent secondary reviewers also screened 1617 and 1478 titles respectively (see Fig. 1). There was good initial agreement between the principal reviewer and secondary reviewer 1, ($\kappa = 0.700$ (95% CI, 0.663 to 0.737), $p < .0005$ and very good agreement between the principal reviewer and secondary reviewer 2, ($\kappa = 0.846$ (95% CI, 0.813 to 0.879), $p < .0005$. Consensus was later achieved following discussion for all studies included at this stage. 860 papers were eligible for full text screening, at which point, 481 were excluded, leaving 379. The most common reason for exclusion was that the sample were not diagnosed with bipolar disorder, or the sample had mixed diagnoses which were not possible to separate ($n = 279$). The second most common reason for exclusion was that the study did not have a measure of social or occupational functioning or used a questionnaire designed only for that study ($n = 134$). The number excluded on each of the remaining criteria are shown in Fig. 1.

Question 1: How has social and/or occupational functioning been measured in people with bipolar disorder?

379 papers reported 38 different measures of social and occupational functioning, in papers published since 1981, which was the date that the first included paper was published. The most commonly used measures are listed in Table 1, along with the number of times they have been used. Measures that have only been used in one study are listed in Appendix B ($n = 10$). Those measures which had been psychometrically examined for reliability or validity using a BD only sample are indicated in Table 1 with *(V)*.

Question 2: What measures have been used to assess social and/or occupational functioning in people with bipolar disorder over the previous 10 years?

To understand how functioning has been measured more recently, Table 2 shows the number of times each of the measures has been used in one of the included studies over the last 10 years. Measures that have only been used in one study are listed in Appendix B ($n = 5$).

3.2. Characteristics of most frequently used measures

The three measures used most often since 1981 were the GAF, FAST and SAS. The same measures were also frequently used over the past 10 years. The three measures used most often over the past 10 years which had been specifically validated for use in BD were the FAST, SFS and LIFE-RIFT. The three measures used most often over the past 10 years not assessed for validity or reliability in a BD sample were the GAF, SOFAS and SAS, but all had been frequently used. The distribution analysis was therefore conducted on the three most commonly used measures validated in BD and the three most commonly used not validated for use in a BD sample over the last 10 years, as this was more likely to be relevant to current practice. For selected measures, all available data from studies using these since 1981 were used for the analysis. The characteristics, strengths and weaknesses of each of the six most commonly used measures are summarised in Appendix C. The pooled analysis data is summarised in Tables 3 and 4.

Question 3: What are the distributions of social and/or occupational functioning scores for people with bipolar disorder in all studies using most frequently used measures over the past 10 years?

3.3. Pooled analysis of commonly used measures

Studies using the SOFAS were the most consistent in reporting demographic and clinical data whereas studies using SFS were least. The highest percentage of missing data across measures was for duration of illness and least for gender. Available demographic data suggest slightly more females than males in pooled samples. The mean age of the pooled samples range from 38.58 to 43.83, however standard deviations suggest the majority were aged between 26 and 56. GAF, SAS, SOFAS and FAST studies included more euthymic participants than episodic participants, however SFS and LIFE-RIFT studies included more patients in episode. Overall, studies across all measures included more outpatients than inpatients (highest proportion of inpatients for GAF and LIFE-RIFT). Age of illness onset ranged from 23.38 years in the LIFE-RIFT pooled sample to 34.18 in the SFS pooled sample. Participants' duration of illness ranged from 9.55 years in the SFS pooled sample to 21.49 in the LIFE-RIFT pooled sample. No data on duration of illness was available for SAS studies used in the pooled analysis.

3.3.1. Generic measures of functioning

Pooled means and standard deviations for each measure are reported in Table 3.

The pooled mean score of the most frequently used measure, the GAF, based on data from 12,392 participants, represents an individual who has '*some mild symptoms or some difficulty in social, occupational or school functioning, but generally functioning pretty well and has some meaningful interpersonal relationships*' (American Psychiatric Association, 1994). These values for the GAF suggest 68% of the combined sample scored between 50.95 and 76.31 (one standard deviation above/below the mean), 13.5% of the sample scored between 38.27 and 50.95 and 13.5% between 76.31 and 88.99 (two standard deviations below/above the mean). A score of between 71 and 80 on the GAF represents an individual who has *'no more than a slight impairment in social, occupational or school functioning (e.g. temporarily falling behind in school work)'* and a score of between 81 and 90 represents an individual who has *'absent minimal symptoms, good functioning in all areas, interested in a wide range of activities, generally satisfied with life and no more than everyday problems or*

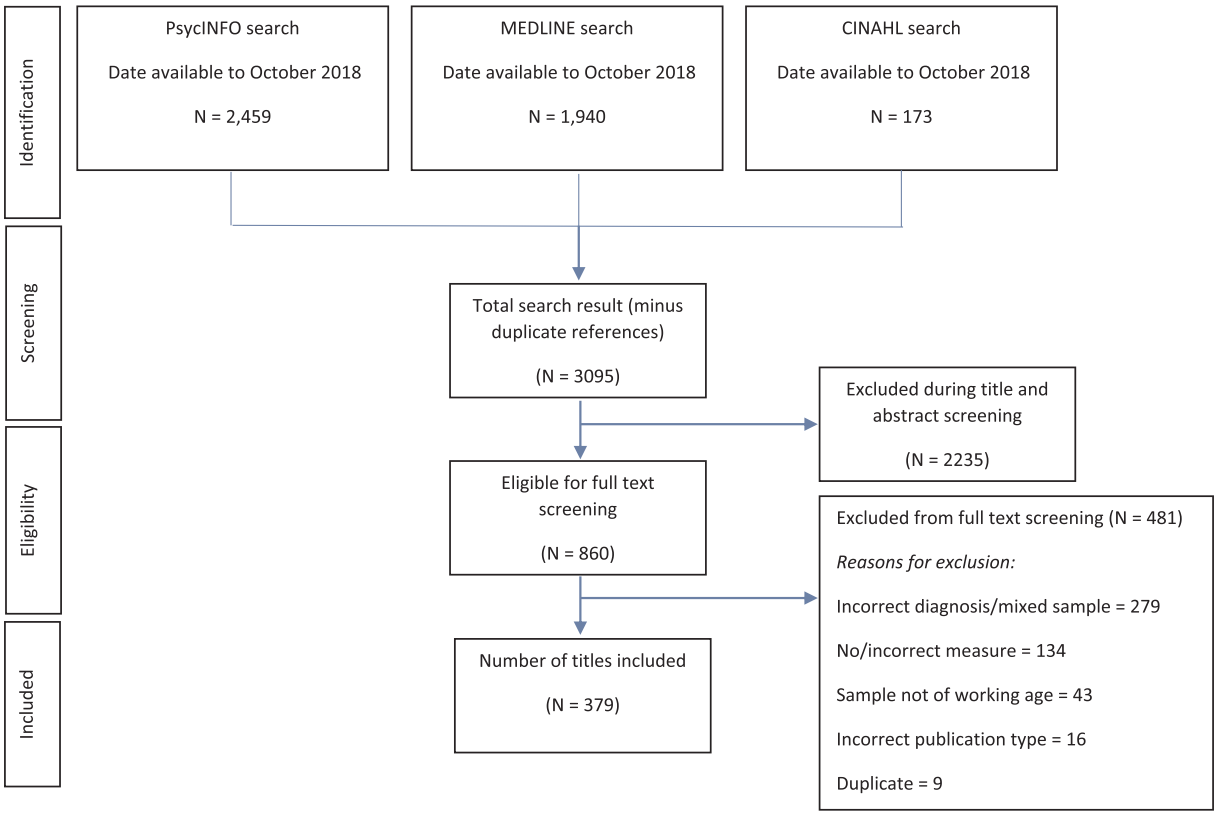

Fig. 1. PRISMA flow diagram.

concerns'. A score of 51–60 represents '*moderate symptoms (e.g. flat and circumstantial speech, occasional panic attacks) OR moderate difficulty in occupational or social functioning (e.g. few friends, conflicts with co-workers)*', whilst 31–40 represents '*some impairment in reality testing or communication, or major impairment in several areas such as work or school, family relations, judgement, thinking or mood*'. 2.5% of the combined sample are estimated to have scored between 38.27 and 25.59, and between 88.99 and 101.67 (three standard deviations above/below the mean). However, scores above 100 are not permitted by the scale, demonstrating a ceiling effect. Here, a huge contrast is seen from individuals with an *'inability to function in almost all areas'* (score of 21–30) to '*superior functioning in a wide range of activities'* (score of 91–100). This data shows considerable variability in the GAF scores, with 16% of participants (n = 1983) functioning well or very well.

The second most frequently used generic measure was the SOFAS on which higher scores indicate better functioning. The pooled standard deviation suggests that 68% of the sample scored between 62.71 and 88.49 (one SD above/below the mean) and 16% of the sample are estimated to have scored between 88.49 and 101.38 (2SD), however scores above 100 are not permitted by the measure. A score of between 71 and 80 on the SOFAS represents an individual with '*no more than a slight impairment in social, occupational or school functioning (e.g. infrequent interpersonal conflict, temporarily falling behind in schoolwork'*, a score of 81–90 represents someone with *'good functioning in all areas, occupationally and socially effective'*, and a score of 91–100 represents someone with *'superior functioning in a wide range of activities '*. This suggests that across a large number of people with bipolar disorder, the majority are actually managing to function at a reasonable level, and 16% are estimated to be high functioning. This indicates that some people with BD demonstrate exceptional functioning. Below the mean, 16% are estimated to have scored between 62.71 and 36.93 (2.5% between 49.82 and 36.93). A score of 51–60 represents someone with *'moderate difficulty in social, occupational or school functioning'*, a score of 41–50 represents someone with *'serious impairment in social occupational or school functioning'* and a score of 31–40 *'major impairment in several areas'*. This highlights substantial variability in functioning across the BD sample.

The SAS was the third most commonly used generic measure. Lower scores on the SAS indicate better functioning and the lowest possible score is 1. Although 1 SD below the mean suggests that 68% of the sample scored between 0.77 and 4.13, there is a floor effect seen immediately, as scores below 1 are not permitted by the scale. As lower scores on the SAS represent better functioning, these results suggest that up to half of the combined sample may be demonstrating high levels of functioning (n = 616). Two SDs above the mean suggests 16% are estimated to have scored between 4.13 and 5.81, indicating substantial social functioning difficulties, however scores above 5 on the SAS are not possible, this time demonstrating a ceiling effect, though less extreme. Scores appear to be skewed towards the lower end of the scale, representing better functioning. Studies using both the self-report and interviewer rated versions of the SAS were used for this analysis.

3.3.2. BD validated measures of functioning

The most frequently used BD validated measure was the FAST on which lower scores indicate better functioning, and the lowest possible score is zero. 68% of the combined sample are estimated to score between 9.47 and 35.83 (1 SD above/below the mean). 16% are estimated to have scored between 9.47 and 0, as the subtraction of 2 SDs from the mean results in a negative value not permitted by the scale. As a score of zero represents no impairment, this suggests that some individuals may have been functioning with very little or no impairment. However, a numerical floor effect is seen here as the FAST does not allow a distinction between no impairment and high functioning. 16% are estimated to have scored between 35.83 and 62.19 (2.5% of which scored between 49.01 and 62.19), indicative of significant problems in social functioning. Scores appear to be skewed towards the lower end of the scale, representing less impaired functioning.

The SFS was the second most commonly used measure validated in BD. Higher scores indicate better functioning and the highest possible

Table 1
Frequency of use of measures of social and occupational functioning that have been used more than once in included studies since 1981.

Measure name	Overall no. of uses
Global Assessment of Functioning (GAF)[b]	166
Functioning Assessment Short Test (FAST) *(V)*	59
Social Adjustment Scale (SAS)	35
Social and Occupational Functioning Scale (SOFAS)	29
Strauss Carpenter Outcome Scale *(V)*	18
The Social Functioning Scale (SFS) *(V)*	16
LIFE-Range of Impaired Functioning Tool (LIFE-RIFT) *(V)*	14
Work and Social Adjustment Scale (WSAS)	13
World Health Organization Disability Assessment Schedule (WHO-DAS) *(V)*	13
LKP Scale	11
UCSD Performance-Based Skills Assessment (UPSA)	10
Life Functioning Questionnaire (LFQ) *(V)*	8
Personal and Social Performance Scale (PSP)	8
Medical Research Council Social Performance Schedule (MRC-SPS)	7
Sheehan Disability Scale *(V)*	7
Bipolar Disorder Functioning Questionnaire (BIPQ) *(V)*	6
Children's Global Assessment Scale (C-GAS)[a]	5
Modified Vocational Status Index and modified location code index	5
Multidimensional Scale of Independent Functioning (MSIF) *(V)*	5
Social Adaptation Self-Evaluation Scale (SASS)	5
Specific Level of Functioning Scale (SLoF)	4
Mini-ICF-APP Social Functioning Scale *(V)*	4
Social Functioning Questionnaire (QFS)	3
Bipolar Functional Status Questionnaire (BFSQ) *(V)*	2
Community Psychiatric Rating Scale (CPRS)	2
Multnomah Community Ability Scale	2
Occupational Performance Questionnaire (OPQ)	2
UCLA Social Attainment Survey (SAS)	2

[a] Measures designed for children were only included when the study met all other inclusion criteria, including having a mean sample age of 16 or over.

[b] 8 GAF studies were not appropriate to be included in subsequent pooled analysis; 3 used an earlier version of the scale (GAS) and 5 used a different scoring system which was not possible to combine.

Table 2
Frequency of use of measures of social and occupational functioning in included studies over the previous 10 years (since 2008).

Measure name	Number of uses in last 10 years
Global Assessment of Functioning (GAF)	112
Functioning Assessment Short Test (FAST) *(V)*	58
Social and Occupational Functioning Scale (SOFAS)	21
Social Adjustment Scale (SAS)	20
Social Functioning Scale (SFS) *(V)*	13
Work and Social Adjustment Scale (WSAS)	13
LIFE-Range of Impaired Functioning (LIFE-RIFT) *(V)*	11
World Health Organisation Disability Assessment Schedule (WHO-DAS) *(V)*	9
Personal and Social Performance Scale (PSP)	8
Bipolar Disorder Functioning Questionnaire (BIPQ) *(V)*	6
Life Functioning Questionnaire (LFQ) *(V)*	6
UCSD Performance-Based Skills Assessment (UPSA)	5
Social adaptation self-evaluation scale (SASS)	5
Children's Global Assessment Scale (C-GAS)[a]	4
Multidimensional Scale of Independent Functioning (MSIF)	4
Strauss Carpenter Outcome Scale	4
Mini-ICF-APP Social Functioning Scale	4
Sheehan Disability Scale (SDS) *(V)*	3
Specific Level of Functioning (SLOF) scale	3
UCSD Performance-Based Skills Assessment (UPSA)	3
Social Functioning Questionnaire (QFS)	3
Bipolar Functional Status Questionnaire (BFSQ) *(V)*	2
Community Psychiatric Rating Scale (CPRS)	2
LKP Scale	2
UCLA Social Attainment Survey (SAS)	2

[a] Measures designed for children were only included when the study met all other inclusion criteria, including having a mean sample age of 16 or over.

score is 135. The pooled analyses for the combined sample suggest that 68% of the sample scored between 97.15 and 137.13 (1 SD above/below mean) however as scores above 135 are not permitted, there is a ceiling effect seen immediately. The scoring range does not permit addition of two or three SDs to the mean. The data indicates good levels of functioning as at least 34% appear to score within the same range (117 to 135) as the majority of a community sample reported by Birchwood, Smith, Cochrane, Wetton, and Copestake (1990). Two SDs below the mean suggests 16% are estimated to have scored between 97.15 and 57.17 (2 and 3 SD's below the mean), however scores below 85 are not possible, this time demonstrating a floor effect, though less extreme. Scores appear to be slightly skewed towards the higher end of the scale, representing better functioning.

The third most commonly used validated measure was the LIFE-RIFT. Lower scores indicate better functioning and the lowest possible score is 4. The pooled data suggest that 68% of the combined sample scored between 9.71 and 16.49 (1 SD above/below the mean) and 16% are estimated to have scored between 9.71 and 2.93 (2.5% of which scored between 6.32 and 2.93), however as scores below 4 are not possible, a numerical floor effect is seen. 16% are estimated to have scored between 16.49 and 23.2 (2.5% of which scored between 19.88 and 23.27), however scores above 20 are not possible, demonstrating a numerical ceiling effect. In contrast to all other measures, which suggest sample data is skewed towards higher functioning, scores for LIFE-RIFT were skewed towards lower functioning. There is no comparable data in community samples for the LIFE-RIFT, however major depressive patients have previously been reported to score around 13.60 when in episode and 9.32 when in recovery (Leon et al., 1999). This suggests that the mean score of this combined sample is slightly lower than episodic major depressive patients, which are generally seen to be a less functionally impaired group and 16% score similarly to, or better than major depressive patients in recovery.

4. Discussion

The aim of this review was to identify the measures that have been used to assess social and occupational functioning in people with BD and to increase understanding of the range and distributions of functioning in people with BD using those measures identified as most commonly used. Thirty-eight measures were used to assess social and occupational functioning within the 379 included studies since 1981, across a wide range of sample types (e.g. euthymic, acutely ill, inpatient and outpatient). Over the past 10 years this reduced to 30 different measures. To get a clear picture of the full range of functioning that can be expected in the BD population, we synthesised data across the studies. By pooling data across studies and sample types, that have used the same measure of functioning, we hoped to achieve more reliable estimates of the range of functioning in BD than those offered by individual studies. Six measures were identified as being most commonly used over the past 10 years, three of which had been validated for use using a BD only sample. Many measures used across the included studies had been used only a handful of times, 10 of which had only been used on a single occasion (see Appendix B). This highlights the need to identify a core set of outcomes that can be used consistently across studies to facilitate comparability between studies.

The most frequently used measures identified and used for the distribution analysis were; the GAF, SOFAS and SAS (not validated in BD) and the FAST, SFS and LIFE-RIFT (validated in BD). Measures used most often over the past 10 years (since 2008) were used for the distribution analysis, as these were deemed to be more relevant to current and future practice in contrast to measures which had fallen out of regular use in

Table 3
Pooled analysis of descriptive statistics of functioning scores and continuous demographic variables.

Measure name	Functioning scores	Age at assessment	Age of illness onset	Duration of illness
Generic measures				
Global Assessment of Functioning (GAF)[a]				
Number of studies with data	111	107	51	60
Combined sample n	12,392	11,160	6131	5872
Mean (SD)	63.63 (12.68)	40.34 (11.74)	24.99 (9.71)	16.41 (10.44)
Missing data n (%)[b]	n/a	1232 (10%)	6261 (50%)	6520 (53%)
Social and Occupational Functioning Scale (SOFAS)[a]				
Number of studies with data	20	17	9	8
Combined sample n	3283	2993	2378	564
Mean (SD)	75.60 (12.89)	43.83 (12.49)	29.27 (11.30)	11.96 (8.07)
Missing data n (%)	n/a	290 (9%)	905 (28%)	2719 (83%)
Social Adjustment Scale (SAS)[a]				
Number of studies with data	14	14	6	0
Combined sample n	1231	1231	610	0
Mean (SD)	2.45 (1.68)	40.66 (11.14)	26.79 (9.48)	n/a
Missing data n (%)	n/a	0 (0%)	621 (51%)	1231 (100%)
BD validated measures				
Functioning Assessment Short Test (FAST)[a]				
Number of studies with data	48	46	22	25
Combined sample n	7256	7150	3812	3831
Mean (SD)	22.65 (13.18)	43.54 (11.95)	26.46 (9.86)	16.92 (10.88)
Missing data n (%)	n/a	106 (2%)	4028 (56%)	3425 (47%)
Social Functioning Scale (SFS)				
Number of studies with data	10	8	1	3
Combined sample n	760	712	96	165
Mean (SD)	117.14 (19.99)	38.58 (12.16)	34.18 (12.81)	9.55 (9.63)
Missing data n (%)	n/a	48 (6%)	664 (87%)	595 (78%)
LIFE-Range of Impaired Functioning (LIFE-RIFT)				
Number of studies with data	11	10	4	4
Combined sample n	1803	1321	315	166
Mean (SD)	13.10 (3.39)	38.93 (12.08)	23.38 (10.49)	21.49 (10.47)
Missing data n (%)	n/a	482 (28%)	1488 (83%)	1637 (91%)

[a] > 20 uses of measure.
[b] Demographic and clinical data was recorded as missing if it was not possible to extract BD participant's data from those with other diagnoses (i.e. if demographic information was reported for all diagnostic groups together). The missing data column in the table reports on the number of participants included in the pooled analysis of functioning scores for which this additional demographic or clinical information was not available.

recent years. An example of this was the Strauss Carpenter Outcome Scale, which was the fifth most commonly used measure overall (in studies since 1981), however was not regularly used over the past 10 years. Since 2008, the SFS moved into fifth place, followed by the Work and Social Adjustment Scale (WSAS) and the LIFE-RIFT. Although the WSAS had been used more frequently over the past 10 years than the LIFE-RIFT, it had not been validated using a BD sample and was therefore not included in the analysis. All but one of the studies using the FAST took place over the past 10 years, suggesting that this may be a new favourite among researchers, given its status as second most commonly used measure overall. In addition, over half of the uses of the SOFAS, took place over the past 10 years, suggesting that this too, is a measure that is being adopted more frequently by researchers in recent years. The SAS was seen to be used slightly less frequently over the last 10 years in comparison to its overall use. The SFS and LIFE-RIFT had mostly been used over the past 10 years, suggesting a possible shift to the use of more recently developed measures of functioning, despite the continued use of the GAF, which was overwhelmingly the most commonly used measure both overall and in the past 10 years. Differences in measure frequency over the past 10 years suggests that in some cases, updated and more appropriate measures may be adopted, as more dated measures fall out of regular use. The continued use of measures such as the GAF, however, may suggest that many researchers stick to measures that they have the most experience using.

The GAF was the only scale which incorporated symptoms into its rating of functioning. The SOFAS was developed from the GAF, however it differs in that it allows the functioning of an individual to be measured regardless of their symptoms (Goldman et al., 1992). This allows a more accurate functioning score to be calculated without taking symptoms into consideration, providing a much clearer picture of functioning alone. In the current review, mean SOFAS scores were higher than GAF scores, with the pooled mean of the SOFAS falling into a different scoring category altogether, representing the difference between *'some difficulty in social, occupational or school functioning, but generally functioning pretty well and has some meaningful interpersonal relationships'* and *'no more than a slight impairment in social, occupational or school functioning'* (American Psychiatric Association, 1994; Goldman et al., 1992). This suggests that the GAF scores may have been reduced by consideration of symptoms, indicating that some people with BD may have higher functioning than is expected by their symptom severity, therefore some people may be functioning well despite persistent or residual symptoms. It has been argued that functional outcomes should have more weight than symptomatic outcomes alone, as individuals with BD, as well as relatives who support them, have reported that the capacity to be successful in work and maintain strong interpersonal relationships are often the most important aspects of recovery (Gitlin & Miklowitz, 2017; Jones et al., 2015; Michalak et al., 2016). The importance of functional outcomes for personal recovery is also emphasised in the NICE guidelines for bipolar disorder (NICE, 2014). This suggests a distinction should be made between functioning and symptoms when choosing outcome measures for research using BD samples, therefore the GAF may be less appropriate if a study is interested specifically in functioning in BD.

Although 3 of the most commonly used measures, the GAF, SOFAS and SAS had not been psychometrically examined for their validity and/or reliability using a BD only sample, it is clear from the level of usage that this has not prevented researchers from using these measures within this population group. An advantage of the SOFAS, the GAF and the SFS is that the measures have broad scales, which allows for higher functioning to be represented. Two commonly used measures, the FAST and LIFE-RIFT measure only level of functional impairment without the

Table 4
Pooled analysis of descriptive statistics of categorical variables.

Measure name	Euthymic vs. in episode		Male vs. Female		Inpatient vs. outpatient
Generic measures					
Global Assessment of Functioning (GAF)[a]					
Number of studies with data	70	Number of studies with data	107	Number of studies with data	70
Euthymic n	3838	Male n	5295	Inpatient n	2342
Currently in episode n	2650	Female n	6844	Outpatient n	5152
Missing data n (%)[b]	5904 (48%)	Missing data n (%)	253 (2%)	Missing data n (%)	4898 (40%)
Social and Occupational Functioning Scale (SOFAS)[a]					
Number of studies with data	13	Number of studies with data	17	Number of studies with data	10
Euthymic n	2358	Male n	1304	Inpatient n	22
Currently in episode n	179	Female n	1733	Outpatient n	2681
Missing data n (%)	746 (23%)	Missing data n (%)	246 (8%)	Missing data n (%)	580 (18%)
Social Adjustment Scale (SAS)[a]					
Number of studies with data	9	Number of studies with data	14	Number of studies with data	8
Euthymic n	643	Male n	477	Inpatient n	31
Currently in episode n	326	Female n	754	Outpatient n	458
Missing data n (%)	262 (21%)	Missing data n (%)	0 (0%)	Missing data n (%)	742 (60%)
BD validated measures					
Functioning Assessment Short Test (FAST)[a]					
Number of studies with data	42	Number of studies with data	46	Number of studies with data	27
Euthymic n	4907	Male n	3043	Inpatient n	377
Currently in episode n	815	Female n	3981	Outpatient n	4777
Missing data n (%)	1534 (21%)	Missing data n (%)	232 (3%)	Missing data n	2102 (29%)
Social Functioning Scale (SFS)					
Number of studies with data	2	Number of studies with data	9	Number of studies with data	0
Euthymic n	0	Male n	259	Inpatient n	0
Currently in episode n	40	Female n	401	Outpatient n	0
Missing data n (%)	720 (95%)	Missing data n (%)	100 (13%)	Missing data n (%)	760 (100%)
LIFE-Range of Impaired Functioning (LIFE-RIFT)					
Number of studies with data	9	Number of studies with data	10	Number of studies with data	4
Euthymic n	128	Male n	535	Inpatient n	267
Currently in episode n	1334	Female n	765	Outpatient n	827
Missing data n (%)	341 (19%)	Missing data n (%)	503 (28%)	Missing data n (%)	709 (39%)

[a] > 20 uses of measure.
[b] Demographic and clinical data was recorded as missing if it was not possible to extract BD participant's data from those with other diagnoses (i.e. if demographic information was reported for all diagnostic groups together). The missing data column in the table reports on the number of participants included in the pooled analysis of functioning scores for which this additional demographic or clinical information was not available.

possibility for greater than average functioning to be represented. These measures are therefore not recommended for studies in which the aim is to obtain an understanding of the full range of functioning within a sample. If a study sample is known to be highly impaired, however, these measures may be able to distinguish differences in the level of impairment. Although the SAS does allow for an individual to be functioning well, the scale only ranges from 1 to 5, meaning that it is harder to detect differences in functioning between participants than a scale that, for example ranges from 1 to 100. Consideration of the precise purpose of assessing functioning is important when selecting a measure in BD research, as there are clear differences in approach to functional evaluation. When the disability level of the sample is not known, broader measures are likely to be more appropriate in order to avoid constriction of scores leading to assumptions of lower functioning.

The pooled analysis of means and standard deviations of the most commonly used measures demonstrated considerable variability, with around 16% of participants showing good to excellent levels of functioning. Interestingly, many of the measures demonstrated a ceiling effect (or numerical floor effect for reverse scored scales), suggesting that the social and occupational functioning of people with BD may have been underestimated during measure development and a proportion are functioning better than expected. Alternatively, it may suggest that people with BD are functioning better than other psychiatric populations, as some of the measures (e.g. GAF, SAS and SOFAS) were not designed or validated specifically for a BD population. For example, only 14.4% of a schizophrenic population were previously reported to score between 116 and 135 on the SFS, in contrast to the pooled BD data in the current review for which at least 34% score in the same range despite a strong ceiling effect (Birchwood et al., 1990). Although the results also show many people with BD have limited social and occupational functioning, they also shed light on a significant number who are managing to flourish alongside their mood experiences. Developing a more accurate understanding of the range of functioning in BD is important both theoretically and clinically in terms of the messages that people with BD receive from clinical professionals and personal recovery objectives. For example, BD theories often focus on understanding causes of dysfunction

in BD, however it may be possible to expand on these in order to explain how some people are able to function successfully.

A number of studies included in the pooled analysis provided clinical and demographic information which highlights diversity of samples with respect to these characteristics, however there were variable levels of missing data across included studies. Overall, the majority of data was collected on outpatients rather than inpatients, and euthymic patients were reported more often than those currently in episode, which may be a factor in the higher levels of functioning shown in the pooled analysis. Studies using the SFS very rarely reported whether participants were euthymic or in episode, so it was impossible to determine how that might have impacted on their scores. Studies using the LIFE-RIFT reported more patients to be in a current mood episode rather than euthymic, which may explain why scores appeared to show a slightly worse pattern of functioning for this measure. Overall, the pooled samples seem to be a middle-aged group with established BD. Mean age of onset of BD was around 20–30 years with over 10 years' duration of illness on average. Studies using the SFS, showed a slightly later onset group and a shorter duration of illness. This did not, however, seem to have a noticeable impact on functioning scores, suggesting that length of illness is not necessarily an important factor in relation to social and occupational functioning. Greater consistency in reporting of clinical and demographic information is needed in BD research to effectively compare samples across studies.

There are some limitations to this review which need to be recognised when making conclusions based on these results. A disadvantage of using pooled means and standard deviations for this analysis is that it is not possible to know that the outcome measure scores from all included studies were normally distributed. However, all studies were published in peer reviewed journals in which the measure of central tendency was accepted, so this is likely to have been taken into consideration during their original analysis. Though clear differences were seen between pooled GAF and SOFAS scores, suggesting an impact of inclusion of symptomatology in the GAF scale, it has to be recognised that the GAF pooled sample was considerably larger than the SOFAS pooled sample. However, both samples included over 3000 people with BD. The large amount of missing data for clinical and demographic characteristics of pooled samples also limits the conclusions that can be placed on their relationships with functioning scores. A restriction of the inclusion criteria was that all papers must have been published in the English language, due to language constraints of the primary reviewer. This obviously overlooks studies published in languages other than English, to which these results cannot necessarily be generalised. A next step for future research in this area might be to consider the psychometric properties of each of the six measures directly compared in a single large sample of individuals with BD, permitting direct comparison of their psychometric properties in this group.

This review involved an in-depth evaluation of the published evidence regarding social and occupational functioning in BD, resulting in identification of six commonly used measures. Across 26,725 people with BD, a broad range of functioning was identified, with around 16% of individuals functioning at a high level. Measures varied in sensitivity to higher levels of functioning, for example, measures focusing on impairment, rather than functioning ability, were less able to capture higher functioning. In order to fully appreciate the range of functional experience of people with BD, it is important to consider both positive and negative aspects of functioning. Going forward, it is also suggested that functioning should be assessed independently from symptomatology, as the two can be contrasting outcomes. Given the substantial proportion of people with BD to which high functioning is applicable, future research is required to gain a more complete understanding of how this is achieved as well as to determine whether new measures of functioning are needed to capture this.

Role of funding sources

This review was completed as part of a PhD studentship, funded by the Faculty of Health and Medicine at Lancaster University, UK. The funder had no role in the study design, collection, analysis or interpretation of the data, writing the manuscript, or the decision to submit the paper for publication.

Contributors

Miss Nadia Akers designed the study, wrote the protocol, conducted the literature searches, article screening and data extraction, conducted the statistical analysis and wrote the first draft of the manuscript. Professor Fiona Lobban and Professor Steven Jones provided input into study development and development of the protocol, contributed to and approved the final manuscript. Ms. Claire Hilton and Miss Katerina Panagaki conducted article screening, contributed to and approved the final manuscript.

Declaration of Competing Interest

All authors declare that they have no conflicts of interest.

Acknowledgements

The authors would like to thank Dr. Guillermo Perez Algorta for his input on aspects of the statistical analysis method. Additional thanks go to all of the authors of included studies who provided additional data on request.

Appendix A. Data extraction table

Extraction using PICO	Data items	Categories (if applicable)
Study details	Reference	
	Study title	
	Study authors	
	Journal	
	Year of publication	
	Study aims	
	Study location	
	Study design	*Randomized controlled trial*
		Non-randomized controlled trial
		Cohort study
		Case control study
		Cross sectional study
		Other

Patient, problem or population	Number of participants	
	Recruitment method	*Random sampling*
		Stratified sampling
		Opportunity sampling
		Systematic sampling
		Volunteer sampling
		Other sampling method
	Diagnoses of participants	*BD I*
		BD II
		Cyclothymia
		BD NOS
		BD with Psychosis
		Other BD
	Other participant characteristics	*Comorbid anxiety*
		Comorbid substance abuse
		Comorbid ADHD
		Comorbid disruptive, impulse control or conduct disorder
		Comorbid eating disorder
		Comorbid sleep disorder
		Other comorbid medical condition
	Current state of patients (if reported)	*Euthymic/in remission*
		Manic/hypomanic episode
		Depressive episode
		Mixed episode
		In episode (not specified)
		Other
	Mean/median age of participants	
	Gender split of participants	*Male*
		Female
		Other
	Average number of past episodes	
	OR	
	Duration of illness	
	OR	
	Age of onset	
Intervention[a]	Brief description of intervention	
Comparison, control or comparator[a]	Brief details of comparators and/or controls	
Outcomes	Social and/or occupational functioning measure(s) used	
	Mean score of said measure(s)	
	SD of said measure(s)	
Reviewer comments		

[a] Information for contextual purposes.

Appendix B. Single use measures

Measure	Reference
Assessment of disability (AD)	Morosini P.L.,Veltro F., Cerreta A., Gaio R. Palomba U. & Ventra C. (1988). Disabilità sociale e carico familiare. Studio di riproducibilità di un nuovo strumento di valutazione. Rivista Sperimentale di Freniatria 3, 541–563
Health of the nation outcome scales (HoNOS)	Wing JK, Beevor AS, Curtis RH, et al. 1998. Health of the Nation Outcome Scales (HoNOS). Research and development. Br J Psychiatry 172: 11–18.
Misadjustment scale (IS)	Echeburúa, E., Corral, P. D., & Fernández-Montalvo, J. (2000). Escala de Inadaptación: propiedades psicométricas en contextos clínicos. *Análisis y Modificación de Conducta, 26 (107), 325–340*.
Occupational case analysis interview and rating scale (OCAIRS)	Kaplan, K. (1989). *Occupational case analysis interview and rating scale*. Slack Incorporated.
Role functioning scale (RFS)	Goodman, S., Sewell, H., Cooley, D., & Leavitt, R. (1993). Assessing levels of adaptive functioning: The Role Functioning Scale. *Community Mental Health Journal, 29*(2), 119–131.
Scaled interview for maladjustment (SSAIM)	Gurland, BJ., Yorkston, NJ., Stone, AR., Frank, JD., Fleiss, JL. 1972 The structured and scaled interview to assess maladjustment (SSAIM). Description, rationale and development. Arch Gen Psychiatry. 27:259-267
Social adjustment inventory for children and adolescents*	John, Gammon, Prusoff, & Warner. (1987). The Social Adjustment Inventory for Children and Adolescents (SAICA): Testing of a New Semistructured Interview. Journal of the American Academy of Child & Adolescent Psychiatry, 26(6), 898–911.
Social adjustment scale II (SAS-II)	Schooler, N. R. (1977). Social Adjustment Scale II (SAS). *Resource materials for community mental health program evaluation*.
The social functioning questionnaire (SFQ)	Tyrer, P. (1990). Personality disorder and social functioning. *Measuring human problems: A practical guide*, 119–142.
Work adjustment scale and role functioning interview	Hammen, C., Adrian, C., Gordon, D., Burge, D., Jaenicke, C., Hiroto, D., & Fowles, Don C. (1987). Children of Depressed Mothers: Maternal Strain and Symptom Predictors of Dysfunction. Journal of Abnormal Psychology, 96(3), 190–198.

Appendix C. Table of characteristics of the most commonly used measures

Measure name	Scoring	Background	Strengths	Weaknesses
Generic measures				
Global assessment of functioning (GAF)[a]	Observer rated measure of an individual's level of general functioning on a scale from 1 to 100, based on a combined assessment of symptoms and functioning, with lower scores representing a poorer level of functioning. A score of 1–10 suggests persistent danger of harm to self or others, whereas a score of 91–100 suggests that an individual has an excellent level of functioning as demonstrated by being successfully involved in a wide range of activities and having no symptoms. Occasionally a split version of the scale is used, in which the interviewer provides a functioning score and a symptoms score.	Initially developed from the Global Assessment Scale (GAS) (Endicott, Spitzer, Fleiss, & Cohen, 1976), which was also used a number of times across the included studies. It has been developed further to create the SOFAS, see below.	- Broad scale allowing for high functioning - Quick and easy to administer with some experience	- Collects functioning and symptoms in a single score - No subscales to distinguish differences in functioning domains - Not developed or validated using a BD sample
Social and occupational functioning scale (SOFAS)[a]	Interviewer rated assessment of an individual's level of social and occupational functioning on a scale from 0 to 100. A score of 1–10 suggests an individual is unable to function without risk of harm to self or others or extensive supervision and care. A score of 91 to 100 represents superior functioning.	Developed from the GAF, to allow for functioning to be measured irrespective of whether symptoms were present (Goldman et al., 1992). The SOFAS, therefore, does not conflate symptoms and functioning, while still using the same scale.	- Quick and easy to administer with some experience - Broad scale allowing for high functioning - Does not assess symptom severity, recognising high level functioning despite residual symptoms	- No subscales to distinguish differences in functioning domains - Not developed or validated using a BD sample
Social adjustment scale (SAS)[a]	Measures social adjustment across 6 domains; work, social and leisure activity, extended family, marital, parental and family life. Each domain is scored by obtaining an average of the ratings for each item, which range from 1 to 5, with lower scores representing better adjustment. An overall score is calculated as the average of the scores on each of the domains. The SAS has both interviewer rated (SAS-SR) and self-report versions.	Interviewer rated version was developed from the Structured and Scaled Interview to Assess Maladjustment (SSIAM) (Gurland et al., 1972; Gurland, Yorkston, Stone, et al., 1972). Self-reported version of the SAS (SAS-SR) was developed from the Social Adjustment Scale Interview (Weissman, 1974). During development it was compared with the interviewer rated version, showing a high correlation, suggesting it is acceptable to compare the two versions (≥ 0.70) (Weissman & Bothwell, 1976).	- Multiple domains of functioning assessed - Does not assess symptom severity, recognising high level functioning despite residual symptoms	- Time consuming to complete - Not developed or validated using a BD sample
BD validated measures				
Functioning assessment short test (FAST)[a]	Used to measure functional impairment in people with mental illness. Interviewer rated measure with 24 items assessing 6 aspects of functioning: autonomy, occupational, cognitive, financial, interpersonal relationships and leisure time. Items are rated on a 4-point scale from 0 (no difficulty) to 4 (severe difficulty). A global score is calculated as the total of each item score and higher scores represent greater impairment in functioning. Focuses on the 15 days prior to assessment.	Initially created by the Bipolar Disorder Program in Spain. The original version of the FAST contained 56 items, assessing 10 different areas of functioning. In addition to the 6 currently included, it also contained areas such as; insight, acceptance/knowledge of disorder, strategies to cope with symptoms and self-fulfilment. After being piloted with bipolar patients and healthy controls, it was amended, and these 4 items were removed (Rosa et al., 2007).	- Multiple domains of functioning assessed - Quick and easy to administer with some experience - Does not assess symptom severity - Developed for use in BD	- Only captures impairments in functioning, does not allow for high functioning
Social functioning scale (SFS)	Self-report measure of social adjustment primarily used with schizophrenic patients but more recently validated for the BD population (Hellvin et al., 2010). It includes a total of 76 items, rated on a 4 point scale, across 7 domains of functioning; withdrawal, interpersonal behaviour, pro-social activities, recreation, independence-competence, independence-performance and employment. Each subscale on the SFS has a scaled score (SS) mean (SD) of 100 (15) based on the development paper sample (Birchwood et al., 1990). A global score is calculated as a mean of all 7 subscale scores, with higher scores representing better social and occupational functioning.	Initially developed by Birchwood et al. (1990) for use in individuals with schizophrenia. The Norwegian version of the scale was later validated for use in individuals with bipolar disorder (Hellvin et al., 2010). The items of the SFS were developed based on the Disability Assessment Schedule (WHO, 1980) and a number of psychosocial interventions (Hogarty et al., 1979; Paul & Lentz, 1977).	- Broad scale allowing for high functioning - Multiple domains of functioning assessed - Does not assess symptom severity, recognising high level functioning despite residual symptoms - Makes a distinction between competence and performance - Validated for use with a BD sample	- Time consuming to complete
LIFE-range of impaired functioning (LIFE-RIFT)	Semi structured interviewer rated measure which assesses social and occupational functioning across 4 domains; work, interpersonal relations, recreation and global satisfaction. A global score is calculated based on a sum of the four domains. However, in the case of the 'interpersonal' and 'work' domains, the interviewer is instructed to take the highest item score (i.e. lowest functioning item) to calculate the global score. Higher scores on the LIFE-RIFT represent poorer levels of social and occupational functioning.	Developed using items from the Longitudinal Interval Follow-up Evaluation (LIFE) which assesses psychosocial functioning along with symptom severity and intensity of treatment (Keller et al., 1987). Validation of the LIFE-RIFT was initially conducted with a sample of participants with major depressive disorder (MDD) but the measure was later validated within a BD sample (Leon et al., 1999; Leon et al., 2000).	- Multiple domains of functioning assessed - Does not assess symptom severity - Quick and easy to administer with some experience - Validated for use with a BD sample	- Only captures impairments in functioning, does not allow for high functioning - No total score can be calculated when there is missing data

[a] > 20 uses of measure.

Appendix D. Pooled analysis references

GAF pooled analysis references

Altamura, A. C., Buoli, M., Caldiroli, A., Caron, L., Melter, C. C., Dobrea, C., … Quarantini, F. Z. (2015). Misdiagnosis, duration of untreated illness (DUI) and outcome in bipolar patients with psychotic symptoms: a naturalistic study. *Journal of Affective Disorders, 182*, 70–75.

Bai, Y. M., Li, C.-T., Chen, M.-H., & Yang, Y. K. (2017). Self-Reported Graphic Personal and Social Performance Scale (SRG-PSP) for measuring functionality in patients with bipolar disorder. *Journal of Affective Disorders, 215*, 256–262.

Ball, J. R., Mitchell, P. B., Corry, J. C., Skillecorn, A., Smith, M., & Malhi, G. S. (2006). A randomized controlled trial of cognitive therapy for bipolar disorder: focus on long-term change. *J Clin Psychiatry, 67*(2), 277–286.

Benazzi, F. (1997). Antidepressant-associated hypomania in outpatient depression: a 203-case study in private practice. *Journal of Affective Disorders, 46*(1), 73–77.

Benazzi, F., & Rihmer, Z. (2000). Sensitivity and specificity of DSM-IV atypical features for bipolar II disorder diagnosis. *Psychiatry Research, 93*(3), 257–262.

Bener, A., Dafeeah, E. E., Abdulla, M. A., Abou-Saleh, M. T., & Ventriglio, A. (2016). Comorbid obsessive-compulsive disorder and bipolar disorder in a highly endogamous population: which came first? *International Journal of Culture and Mental Health, 9*(4), 407–413.

Berk, M., Copolov, D. L., Dean, O., Lu, K., Jeavons, S., Schapkaitz, I., … Bush, A. I. (2008). *N*-acetyl cysteine for depressive symptoms in bipolar disorder—a double-blind randomized placebo-controlled trial. *Biological Psychiatry, 64*(6), 468–475.

Boylan, K. R., Bieling, P. J., Marriott, M., Begin, H., Young, L. T., & MacQueen, G. M. (2004). Impact of comorbid anxiety disorders on outcome in a cohort of patients with bipolar disorder. *J Clin Psychiatry*.

Braw, Y., Sitman, R., Sela, T., Erez, G., Bloch, Y., & Levkovitz, Y. (2012). Comparison of insight among schizophrenia and bipolar disorder patients in remission of affective and positive symptoms: analysis and critique. *European Psychiatry, 27*(8), 612–618.

Caletti, E., Paoli, R. A., Fiorentini, A., Cigliobianco, M., Zugno, E., Serati, M., … Zago, S. (2013). Neuropsychology, social cognition and global functioning among bipolar, schizophrenic patients and healthy controls: preliminary data. *Frontiers in Human Neuroscience, 7*, 661.

Calkin, C., Van De Velde, C., Růžičková, M., Slaney, C., Garnham, J., Hajek, T., … Alda, M. (2009). Can body mass index help predict outcome in patients with bipolar disorder? *Bipolar Disorders, 11*(6), 650–656.

Castle, D., Berk, M., Berk, L., Lauder, S., Chamberlain, J., & Gilbert, M. (2007). Pilot of group intervention for bipolar disorder. *International Journal of Psychiatry in Clinical Practice, 11*(4), 279–284.

Ciapparelli, A., Dell'Osso, L., di Poggio Bandettini, A., Carmassi, C., Cecconi, D., Fenzi, M., … Cassano, G. B. (2003). Clozapine in treatment-resistant patients with schizophrenia, schizoaffective disorder, or psychotic bipolar disorder: a naturalistic 48-month follow-up study. *J Clin Psychiatry, 64*(4), 451–458.

Cusi, A., MacQueen, G. M., & McKinnon, M. C. (2010). Altered self-report of empathic responding in patients with bipolar disorder. *Psychiatry Research, 178*(2), 354–358.

Cusi, A. M., MacQueen, G. M., & McKinnon, M. C. (2012). Patients with bipolar disorder show impaired performance on complex tests of social cognition. *Psychiatry Research, 200*(2–3), 258–264.

Dias, V. V., Brissos, S., Cardoso, C., Andreazza, A. C., & Kapczinski, F. (2009). Serum homocysteine levels and cognitive functioning in euthymic bipolar patients. *Journal of Affective Disorders, 113*(3), 285–290.

Draisma, S., Smit, J., & Nolen, W. (2010). The effect of moderate and excessive alcohol use on the course and outcome of patients with bipolar disorders: a prospective cohort study. *J Clin Psychiatry, 71*(7), 885–893.

Fennig, S., Bromet, E. J., Karant, M. T., Ram, R., & Jandorf, L. (1996). Mood-congruent versus mood-incongruent psychotic symptoms in first-admission patients with affective disorder. *Journal of Affective Disorders, 37*(1), 23–29.

Forcada, I., Mur, M., Mora, E., Vieta, E., Bartrés-Faz, D., & Portella, M. J. (2015). The influence of cognitive reserve on psychosocial and neuropsychological functioning in bipolar disorder. *European Neuropsychopharmacology, 25*(2), 214–222.

Forcada, I., Papachristou, E., Mur, M., Christodoulou, T., Jogia, J., Reichenberg, A., … Frangou, S. (2011). The impact of general intellectual ability and white matter volume on the functional outcome of patients with Bipolar Disorder and their relatives. *Journal of Affective Disorders, 130*(3), 413–420.

Gade, K., Malzahn, D., Anderson-Schmidt, H., Strohmaier, J., Meier, S., Frank, J., … Schulze, T. G. (2015). Functional outcome in major psychiatric disorders and associated clinical and psychosocial variables: A potential cross-diagnostic phenotype for further genetic investigations? *The World Journal of Biological Psychiatry, 16*(4), 237–248.

Garcia-Portilla, M. P., Gomar, J. J., Bobes-Bascaran, M. T., Menendez-Miranda, I., Saiz, P. A., Muñiz, J., … Bobes, J. (2013). Validation of a European Spanish-version of the University of California performance Skills Assessment (Sp-UPSA) in patients with schizophrenia and bipolar disorder. *Schizophrenia Research, 150*(2–3), 421–426.

González-Isasi, A., Echeburúa, E., Mosquera, F., Ibáñez, B., Aizpuru, F., & González-Pinto, A. (2010). Long-term efficacy of a psychological intervention program for patients with refractory bipolar disorder: a pilot study. *Psychiatry Research, 176*(2–3), 161–165.

Grover, S., Hazari, N., Aneja, J., Chakrabarti, S., & Avasthi, A. (2016). Stigma and its correlates among patients with bipolar disorder: a study from a tertiary care hospital of North India. *Psychiatry Research, 244*, 109–116.

Grover, S., Hazari, N., Aneja, J., Chakrabarti, S., Sharma, S., & Avasthi, A. (2016). Recovery and its correlates among patients with bipolar disorder: A study from a tertiary care centre in North India. *International Journal of Social Psychiatry, 62*(8), 726–736.

Hajek, T., Calkin, C., Blagdon, R., Slaney, C., & Alda, M. (2015). Type 2 diabetes mellitus: a potentially modifiable risk factor for neurochemical brain changes in bipolar disorders. *Biological Psychiatry, 77*(3), 295–303.

Hajek, T., Slaney, C., Garnham, J., Ruzickova, M., Passmore, M., & Alda, M. (2005). Clinical correlates of current level of functioning in primary care-treated bipolar patients. *Bipolar Disorders, 7*(3), 286–291.

Heilbronner, U., Malzahn, D., Strohmaier, J., Maier, S., Frank, J., Treutlein, J., … Cichon, S. (2015). A common risk variant in CACNA1C supports a sex-dependent effect on longitudinal functioning and functional recovery from episodes of schizophrenia-spectrum but not bipolar disorder. *European Neuropsychopharmacology, 25*(12), 2262–2270.

Ho, N. F., Li, Z., Ji, F., Wang, M., Kuswanto, C. N., Sum, M. Y., … Zhou, J. (2017). Hemispheric lateralization abnormalities of the white matter microstructure in patients with schizophrenia and bipolar disorder. *Journal Of Psychiatry & Neuroscience: JPN, 42*(4), 242.

Hoertnagl, C. M., Biedermann, F., Yalcin-Siedentopf, N., Muehlbacher, M., Rauch, A.-S., Baumgartner, S., … Hausmann, A. (2015). Prosodic and semantic affect perception in remitted patients with bipolar I disorder. *J Clin Psychiatry, 76*(6), e779–786.

Hoertnagl, C. M., Muehlbacher, M., Biedermann, F., Yalcin, N., Baumgartner, S., Schwitzer, G., … Benecke, C. (2011). Facial emotion recognition and its relationship to subjective and functional outcomes in remitted patients with bipolar I disorder. *Bipolar Disorders, 13*(5–6), 537–544.

Ioannidi, N., Konstantakopoulos, G., Sakkas, D., & Oulis, P. (2015). The relationship of Theory of Mind with symptoms and cognitive impairment in bipolar disorder: a prospective study. *Psychiatrike = Psychiatriki, 26*(1), 17–27.

Jhanda, S., Malhotra, S., & Grover, S. (2018). Relationship between bipolar disorder and attention deficit hyperkinetic disorder: An exploratory study. *Asian Journal of Psychiatry, 35*, 101–108.

Karidi, M., Vassilopoulou, D., Savvidou, E., Vitoratou, S., Maillis, A., Rabavilas, A., & Stefanis, C. (2015). Bipolar disorder and self-stigma: A comparison with schizophrenia. *Journal of Affective Disorders, 184*, 209–215.

Kaya, E., Aydemir, Ö., & Selcuki, D. (2007). Residual symptoms in bipolar disorder: the effect of the last episode after remission. *Progress in Neuro-Psychopharmacology and Biological Psychiatry, 31*(7), 1387–1392.

Konstantakopoulos, G., Ioannidi, N., Typaldou, M., Sakkas, D., & Oulis, P. (2016). Clinical and cognitive factors affecting psychosocial functioning in remitted patients with bipolar disorder. *Psychiatrike = Psychiatriki, 27*(3), 182–191.

Lahera, G., Herrera, S., Reinares, M., Benito, A., Rullas, M., González-Cases, J., & Vieta, E. (2015). Hostile attributions in bipolar disorder and schizophrenia contribute to poor social functioning. *Acta Psychiatrica Scandinavica, 131*(6), 472–482.

Lahera, G., Ruiz-Murugarren, S., Fernández-Liria, A., Saiz-Ruiz, J., Buck, B. E., & Penn, D. L. (2016). Relationship between olfactory function and social cognition in euthymic bipolar patients. *CNS Spectrums, 21*(1), 53–59.

Lasebikan, V. O., & Ayinde, O. (2017). Profile and determinants of disability in psychotic disorders in Nigeria. *Community Mental Health Journal, 53*(8), 936–950.

Lembke, A., Miklowitz, D. J., Otto, M. W., Zhang, H., Wisniewski, S. R., Sachs, G. S., … Investigators, S.-B. (2004). Psychosocial service utilization by patients with bipolar disorders: data from the first 500 participants in the Systematic Treatment Enhancement Program. *Journal of Psychiatric Practice®, 10*(2), 81–87.

Levy, B., Medina, A. M., Hintz, K., & Weiss, R. D. (2011). Ecologically valid support for the link between cognitive and psychosocial functioning in bipolar disorder. *Psychiatry Research, 185*(3), 353–357.

Lewinsohn, P. M., Klein, D. N., & Seeley, J. R. (2000). Bipolar disorder during adolescence and young adulthood in a community sample. *Bipolar Disorders, 2*(3p2), 281–293.

Li, C., Chen, C., Qiu, B., & Yang, G. (2014). A 2-year follow-up study of discharged psychiatric patients with bipolar disorder. *Psychiatry Research, 218*(1–2), 75–78.

Lombardo, L. E., Bearden, C. E., Barrett, J., Brumbaugh, M. S., Pittman, B., Frangou, S., & Glahn, D. C. (2012). Trait impulsivity as an endophenotype for bipolar I disorder. *Bipolar Disorders, 14*(5), 565–570.

Maripuu, M., Wikgren, M., Karling, P., Adolfsson, R., & Norrback, K.-F. (2014). Relative hypo-and hypercortisolism are both associated with depression and lower quality of life in bipolar disorder: a cross-sectional study. *Plos One, 9*(6), e98682.

Martinez-Aran, A., Penades, R., Vieta, E., Colom, F., Reinares, M., Benabarre, A., … Gasto, C. (2002). Executive function in patients with remitted bipolar disorder and schizophrenia and its relationship with functional outcome. *Psychotherapy and Psychosomatics, 71*(1), 39–46.

Martínez-Arán, A., Vieta, E., Reinares, M., Colom, F., Torrent, C., Sánchez-Moreno, J., … Salamero, M. (2004). Cognitive function across manic or hypomanic, depressed, and euthymic states in bipolar disorder. *American Journal of Psychiatry, 161*(2), 262–270.

Martino, D. J., Igoa, A., Marengo, E., Scápola, M., & Strejilevich, S. A. (2011). Neurocognitive impairments and their relationship with psychosocial functioning in euthymic bipolar II disorder. *The Journal of nervous and mental disease, 199*(7), 459–464.

Martino, D. J., Igoa, A., Scápola, M., Marengo, E., Samamé, C., & Strejilevich, S. A. (2017). Functional outcome in the middle course of bipolar disorder: a longitudinal study. *The Journal of nervous and mental disease, 205*(3), 203–206.

Martino, D. J., Strejilevich, S. A., Fassi, G., Marengo, E., & Igoa, A. (2011). Theory of mind and facial emotion recognition in euthymic bipolar I and bipolar II disorders. *Psychiatry Research, 189*(3), 379–384.

Martino, D. J., Strejilevich, S. A., Marengo, E., Ibañez, A., Scápola, M., & Igoa, A. (2014). Towards the identification of neurocognitive subtypes in euthymic patients with bipolar disorder. *Journal of Affective Disorders, 167*, 118–124.

Martino, D. J., Strejilevich, S. A., Scápola, M., Igoa, A., Marengo, E., Ais, E. D., & Perinot, L. (2008). Heterogeneity in cognitive functioning among patients with bipolar disorder. *Journal of Affective Disorders, 109*(1–2), 149–156.

Martino, D. J., Valerio, M. P., Szmulewicz, A. G., & Strejilevich, S. A. (2017). The effect of premorbid intelligence on neurocognitive and psychosocial functioning in bipolar disorder. *Journal of Affective Disorders, 210*, 226–229.

Mathew, B., Dawson, M. Y., Kozanitis, C., Bright, B., Gopinath, H., Raffa, J. D., … Lam, R. W. (2007). Psychosocial outcomes following electroconvulsive therapy in a community setting: retrospective chart review with 2-year follow-up. *The Canadian Journal of Psychiatry, 52*(9), 598–604.

Mazza, M., Mandelli, L., Zaninotto, L., Nicola, M. D., Martinotti, G., Harnic, D., … Colombo, R. (2011). Factors associated with the course of symptoms in bipolar disorder during a 1-year follow-up: depression vs. sub-threshold mixed state. *Nordic Journal of Psychiatry, 65*(6), 419–426.

Miguélez-Pan, M., Pousa, E., Cobo, J., & Duño, R. (2014). Cognitive executive performance influences functional outcome in euthymic type I bipolar disorder outpatients. *Psicothema, 26*(2), 166–173.

Miklowitz, D. J., Otto, M. W., Frank, E., Reilly-Harrington, N. A., Kogan, J. N., Sachs, G. S., … Ostacher, M. J. (2007). Intensive psychosocial intervention enhances functioning in patients with bipolar depression: results from a 9-month randomized controlled trial. *American Journal of Psychiatry, 164*(9), 1340–1347.

Moe, A. M., & Docherty, N. M. (2013). Schizophrenia and the sense of self. *Schizophrenia Bulletin, 40*(1), 161–168.

Mora, E., Portella, M., Forcada, I., Vieta, E., & Mur, M. (2013). Persistence of cognitive impairment and its negative impact on psychosocial functioning in lithium-treated, euthymic bipolar patients: a 6-year follow-up study. *Psychol Med, 43*(6), 1187–1196.

Mora, E., Portella, M., Forcada, I., Vieta, E., & Mur, M. (2016). A preliminary longitudinal study on the cognitive and functional outcome of bipolar excellent lithium responders. *Comprehensive Psychiatry, 71*, 25–32.

Moro, M. F., Colom, F., Floris, F., Pintus, E., Pintus, M., Contini, F., & Carta, M. G. (2012). Validity and reliability of the Italian version of the Functioning Assessment Short Test (FAST) in bipolar disorder. *Clinical practice and epidemiology in mental health: CP & EMH, 8*, 67.

Muhtadie, L., Johnson, S. L., Carver, C. S., Gotlib, I. H., & Ketter, T. A. (2014). A profile approach to impulsivity in bipolar disorder: the key role

of strong emotions. *Acta Psychiatrica Scandinavica, 129*(2), 100–108.

Mur, M., Portella, M. J., Martinez-Aran, A., Pifarre, J., & Vieta, E. (2009). Influence of clinical and neuropsychological variables on the psychosocial and occupational outcome of remitted bipolar patients. *Psychopathology, 42*(3), 148–156.

Mur, M., Portella, M. J., Martínez-Arán, A., Pifarré, J., & Vieta, E. (2008). Long-term stability of cognitive impairment in bipolar disorder: a 2-year follow-up study of lithium-treated euthymic bipolar patients. *J Clin Psychiatry*.

Nanda, P., Tandon, N., Mathew, I. T., Padmanabhan, J. L., Clementz, B. A., Pearlson, G. D., … Keshavan, M. S. (2016). Impulsivity across the psychosis spectrum: correlates of cortical volume, suicidal history, and social and global function. *Schizophrenia Research, 170*(1), 80–86.

Niolu, C., Barone, Y., Bianciardi, E., Ribolsi, M., Marchetta, C., Robone, C., … Lorenzo, G. (2015). Predictors of poor adherence to treatment in inpatients with bipolar and psychotic spectrum disorders. *Rivista di Psichiatria, 50*(6), 285–294.

Nishimura, Y., Takahashi, K., Ohtani, T., Ikeda-Sugita, R., Okada, N., Kasai, K., & Okazaki, Y. (2015). Social function and frontopolar activation during a cognitive task in patients with bipolar disorder. *Neuropsychobiology, 72*(2), 81–90.

O'Donnell, L. A., Deldin, P. J., Pester, B., McInnis, M. G., Langenecker, S. A., & Ryan, K. A. (2017). Cognitive flexibility: A trait of bipolar disorder that worsens with length of illness. *Journal of Clinical and Experimental Neuropsychology, 39*(10), 979–987.

O'Shea, R., Poz, R., Michael, A., Berrios, G., Evans, J., & Rubinsztein, J. (2010). Ecologically valid cognitive tests and everyday functioning in euthymic bipolar disorder patients. *Journal of Affective Disorders, 125*(1–3), 336–340.

Ozdel, O., Karadag, F., Atesci, F. C., Oguzhanoglu, N. K., & Cabuk, T. (2007). Cognitive functions in euthymic patients with bipolar disorder. *Annals Of Saudi Medicine, 27*(4), 273–278.

Ozerdem, A., Oguz, M., Miklowitz, D., & Cimilli, C. (2009). Family focused treatment for patients with bipolar disorder in Turkey: A case series. *Family Process, 48*(3), 417–428.

Paillère-Martinot, M.-L., Aubin, F., Martinot, J.-L., & Colin, B. (2000). A prognostic study of clinical dimensions in adolescent-onset psychoses. *Schizophrenia Bulletin, 26*(4), 789–799.

Patelis-Siotis, I., Young, L. T., Robb, J. C., Marriott, M., Bieling, P. J., Cox, L. C., & Joffe, R. T. (2001). Group cognitive behavioral therapy for bipolar disorder: a feasibility and effectiveness study. *Journal of Affective Disorders, 65*(2), 145–153.

Pattanayak, R. D., Sagar, R., & Mehta, M. (2012). Neuropsychological performance in euthymic I ndian patients with bipolar disorder type I: Correlation between quality of life and global functioning. *Psychiatry and Clinical Neurosciences, 66*(7), 553–563.

Perugi, G., Ceraudo, G., Vannucchi, G., Rizzato, S., Toni, C., & Dell'Osso, L. (2013). Attention deficit/hyperactivity disorder symptoms in Italian bipolar adult patients: a preliminary report. *Journal of Affective Disorders, 149*(1–3), 430–434.

Piccinni, A., Catena, M., Del Debbio, A., Marazziti, D., Monje, C., Schiavi, E., … Roncaglia, I. (2007). Health-related quality of life and functioning in remitted bipolar I outpatients. *Comprehensive Psychiatry, 48*(4), 323–328.

Purcell, A. L., Phillips, M., & Gruber, J. (2013). In your eyes: does theory of mind predict impaired life functioning in bipolar disorder? *Journal of Affective Disorders, 151*(3), 1113–1119.

Rosa, A. R., Andreazza, A. C., Kunz, M., Gomes, F., Santin, A., Sanchez-Moreno, J., … Kapczinski, F. (2008). Predominant polarity in bipolar disorder: diagnostic implications. *Journal of Affective Disorders, 107*(1–3), 45–51.

Rosa, A. R., Sánchez-Moreno, J., Martínez-Aran, A., Salamero, M., Torrent, C., Reinares, M., … Ayuso-Mateos, J. L. (2007). Validity and reliability of the Functioning Assessment Short Test (FAST) in bipolar disorder. *Clinical Practice and Epidemiology in Mental Health, 3*(1), 5.

Ruggero, C. J., Chelminski, I., Young, D., & Zimmerman, M. (2007). Psychosocial impairment associated with bipolar II disorder. *Journal of Affective Disorders, 104*(1–3), 53–60.

Sajatovic, M., Levin, J., Tatsuoka, C., Micula-Gondek, W., Williams, T. D., Bialko, C. S., & Cassidy, K. A. (2012). Customized adherence enhancement for individuals with bipolar disorder receiving antipsychotic therapy. *Psychiatric Services, 63*(2), 176–178.

Samalin, L., Llorca, P. M., Giordana, B., Milhiet, V., Yon, L., El-Hage, W., … Filipovics, A. (2014). Residual symptoms and functional performance in a large sample of euthymic bipolar patients in France (the OPTHYMUM study). *Journal of Affective Disorders, 159*, 94–102.

Sanchez-Autet, M., Arranz, B., Safont, G., Sierra, P., Garcia-Blanco, A., de la Fuente, L., … García-Portilla, M. (2018). Gender differences in C-reactive protein and homocysteine modulation of cognitive performance and real-world functioning in bipolar disorder. *Journal of Affective Disorders, 229*, 95–104.

Sanchez-Moreno, J., Martinez-Aran, A., Colom, F., Scott, J., Tabares-Seisdedos, R., Suǵranyes, G., … Goikolea, J. M. (2009). Neurocognitive dysfunctions in euthymic bipolar patients with and without prior history of alcohol use. *J Clin Psychiatry*.

Sato, T., Bottlender, R., Tanabe, A., & Möller, H.-J. (2004). Cincinnati criteria for mixed mania and suicidality in patients with acute mania. *Comprehensive Psychiatry, 45*(1), 62–69.

Schoeyen, H. K., Melle, I., Sundet, K., Aminoff, S. R., Hellvin, T., Auestad, B. H., … Andreassen, O. A. (2013). Occupational outcome in bipolar disorder is not predicted by premorbid functioning and intelligence. *Bipolar Disorders, 15*(3), 294–305.

Schöttle, D., Schimmelmann, B. G., Conus, P., Cotton, S. M., Michel, C., McGorry, P. D., … Lambert, M. (2012). Differentiating schizoaffective and bipolar I disorder in first-episode psychotic mania. *Schizophrenia Research, 140*(1–3), 31–36.

Schöttle, D., Schimmelmann, B. G., Karow, A., Ruppelt, F., Sauerbier, A.-L., Bussopulos, A., … Nika, E. (2014). Effectiveness of integrated care including therapeutic assertive community treatment in severe schizophrenia spectrum and bipolar I disorders: the 24-month follow-up ACCESS II study. *J Clin Psychiatry*.

Scott, J., Grunze, H., Meyer, T. D., Nendick, J., Watkins, H., & Ferrier, N. (2015). A bipolar II cohort (ABC): the association of functional disability with gender and rapid cycling. *Journal of Affective Disorders, 185*, 204–208.

Shashidhara, M., Sushma, B., Viswanath, B., Math, S. B., & Reddy, Y. J. (2015). Comorbid obsessive compulsive disorder in patients with bipolar-I disorder. *Journal of Affective Disorders, 174*, 367–371.

Smith, D. J., Griffiths, E., Poole, R., Di Florio, A., Barnes, E., Kelly, M. J., … Simpson, S. (2011). Beating Bipolar: exploratory trial of a novel internet-based psychoeducational treatment for bipolar disorder. *Bipolar Disorders, 13*(5–6), 571–577.

Soni, A., Singh, P., Shah, R., & Bagotia, S. (2017). Impact of cognition and clinical factors on functional outcome in patients with bipolar disorder. *East Asian Archives of Psychiatry, 27*(1), 26.

Sum, M. Y., Ho, N. F., & Sim, K. (2015). Cross diagnostic comparisons of quality of life deficits in remitted and unremitted patients with schizophrenia and bipolar disorder. *Schizophrenia Research, 168*(1–2), 191–196.

Sung, G., Kim, B.-N., Lee, E.-H., Yu, B.-H., Hong, K. S., & Kim, J.-H. (2012). Underestimating the severity of bipolar depression: a comparison of

the Hamilton depression rating scale items. *Journal of Affective Disorders, 136*(3), 425–429.

Tabarés-Seisdedos, R., Balanzá-Martínez, V., Sánchez-Moreno, J., Martinez-Aran, A., Salazar-Fraile, J., Selva-Vera, G., … Vieta, E. (2008). Neurocognitive and clinical predictors of functional outcome in patients with schizophrenia and bipolar I disorder at one-year follow-up. *Journal of Affective Disorders, 109*(3), 286–299.

Takei, Y., Suda, M., Aoyama, Y., Sakurai, N., Tagawa, M., Motegi, T., … Fukuda, M. (2014). Near-infrared spectroscopic study of frontopolar activation during face-to-face conversation in major depressive disorder and bipolar disorder. *Journal of Psychiatric Research, 57*, 74–83.

Tamminga, C. A., Ivleva, E. I., Keshavan, M. S., Pearlson, G. D., Clementz, B. A., Witte, B., … Sweeney, J. A. (2013). Clinical phenotypes of psychosis in the Bipolar-Schizophrenia Network on Intermediate Phenotypes (B-SNIP). *American Journal of Psychiatry, 170*(11), 1263–1274.

Tang, H.-C., Chen, P.-H., Chung, K.-H., Kuo, C.-J., Huang, S.-H., & Tsai, S.-Y. (2015). Psychological outcomes and medical morbidity of patients with bipolar disorder and co-occurring alcohol use disorder. *Journal of Dual Diagnosis, 11*(3–4), 184–188.

Tohen, M., Zarate Jr., C. A., Hennen, J., Khalsa, H.-M. K., Strakowski, S. M., Gebre-Medhin, P., … Baldessarini, R. J. (2003). The McLean-Harvard first-episode mania study: prediction of recovery and first recurrence. *American Journal of Psychiatry, 160*(12), 2099–2107.

Torrent, C., Martínez-Arán, A., Daban, C., Sánchez-Moreno, J., Comes, M., Goikolea, J. M., … Vieta, E. (2006). Cognitive impairment in bipolar II disorder. *The British Journal of Psychiatry, 189*(3), 254–259.

Tsai, S.-Y., Chen, C.-C., & Yeh, E.-K. (1997). Alcohol problems and long-term psychosocial outcome in Chinese patients with bipolar disorder. *Journal of Affective Disorders, 46*(2), 143–150.

Van Rheenen, T. E., & Rossell, S. L. (2014). Objective and subjective psychosocial functioning in bipolar disorder: an investigation of the relative importance of neurocognition, social cognition and emotion regulation. *Journal of Affective Disorders, 162*, 134–141.

Waszczuk, M. A., Kotov, R., Ruggero, C., Gamez, W., & Watson, D. (2017). Hierarchical structure of emotional disorders: From individual symptoms to the spectrum. *Journal of Abnormal Psychology, 126*(5), 613.

Wegbreit, E., Weissman, A. B., Cushman, G. K., Puzia, M. E., Kim, K. L., Leibenluft, E., & Dickstein, D. P. (2015). Facial emotion recognition in childhood-onset bipolar I disorder: an evaluation of developmental differences between youths and adults. *Bipolar Disorders, 17*(5), 471–485.

Yalcin-Siedentopf, N., Hoertnagl, C. M., Biedermann, F., Baumgartner, S., Deisenhammer, E. A., Hausmann, A., … Rauch, A.-S. (2014). Facial affect recognition in symptomatically remitted patients with schizophrenia and bipolar disorder. *Schizophrenia Research, 152*(2–3), 440–445.

Yoshimura, Y., Okamoto, Y., Onoda, K., Okada, G., Toki, S., Yoshino, A., … Yamawaki, S. (2014). Psychosocial functioning is correlated with activation in the anterior cingulate cortex and left lateral prefrontal cortex during a verbal fluency task in euthymic bipolar disorder: a preliminary fMRI study. *Psychiatry and Clinical Neurosciences, 68*(3), 188–196.

Zarin, D. A., Young, J. L., & West, J. C. (2005). Challenges to evidence-based medicine: a comparison of patients and treatments in randomized controlled trials with patients and treatments in a practice research network. *Soc Psychiatry Psychiatr Epidemiol, 40*(1), 27–35. doi:https://doi.org/10.1007/s00127-005-0838-9
https://doi.org/10.1007/s00127-005-0838-9.

Zhang, Y., Long, X., Ma, X., He, Q., Luo, X., Bian, Y., … Vieta, E. (2018). Psychometric properties of the Chinese version of the Functioning Assessment Short Test (FAST) in bipolar disorder. *Journal of Affective Disorders, 238*, 156–160.

Zimmerman, M., Ellison, W., Morgan, T. A., Young, D., Chelminski, I., & Dalrymple, K. (2015). Psychosocial morbidity associated with bipolar disorder and borderline personality disorder in psychiatric out-patients: comparative study. *The British Journal of Psychiatry, 207*(4), 334–338.

Zimmerman, M., Martinez, J. H., Morgan, T. A., Young, D., Chelminski, I., & Dalrymple, K. (2013). Distinguishing bipolar II depression from major depressive disorder with comorbid borderline personality disorder: demographic, clinical, and family history differences. *J Clin Psychiatry, 74*(9), 880–886.

SOFAS pooled analysis references

Ameen, S., & Ram, D. (2007). Negative symptoms in the remission phase of bipolar disorder. *German Journal of Psychiatry, 10*, 1–7.

Amp, Apos, Shea, R., Poz, R., Michael, A., Berrios, G. E., … Rubinsztein, J. S. (2010). Ecologically valid cognitive tests and everyday functioning in euthymic bipolar disorder patients. *Journal of Affective Disorders, 125*(1–3), 336–340. doi:https://doi.org/10.1016/j.jad.2009.12.012

Berk, M., Copolov, D. L., Dean, O., Lu, K., Jeavons, S., Schapkaitz, I., … Bush, A. I. (2008). *N*-acetyl cysteine for depressive symptoms in bipolar disorder—a double-blind randomized placebo-controlled trial. *Biological Psychiatry, 64*(6), 468–475.

Bozikas, V. P., Parlapani, E., Ntouros, E., Bargiota, S. I., Floros, G., Nazlidou, E. I., & Garyfallos, G. (2018). Resilience Predicts Social Functioning in Clinically Stable Patients With Bipolar Disorder. *The Journal of nervous and mental disease, 206*(7), 567–574.

Braw, Y., Sitman, R., Sela, T., Erez, G., Bloch, Y., & Levkovitz, Y. (2012). Comparison of insight among schizophrenia and bipolar disorder patients in remission of affective and positive symptoms: Analysis and critique. *European Psychiatry, 27*(8), 612–618. doi:https://doi.org/10.1016/j.eurpsy.2011.02.002

Chang, W. C., Lau, E. S. K., Chiu, S. S., Hui, C. L. M., Chan, S. K. W., Lee, E. H. M., & Chen, E. Y. H. (2016). Three-year clinical and functional outcome comparison between first-episode mania with psychotic features and first-episode schizophrenia. *Journal of Affective Disorders, 200*, 1–5. doi:https://doi.org/10.1016/j.jad.2016.01.050

de Arce, R., Jiménez-Arriero, M. Á., Rodríguez-Calvin, J. L., Ruiz-Aguado, J. M., Zaragoza-Domingo, S., Cobaleda, S., & Vieta, E. (2011). Subsyndromal depressive symptoms in bipolar II disorder: a community mental health services cohort study (SIN-DEPRES). *Revista Colombiana De Psiquiatria, 40*, 13–49.

de Dios, C., González-Pinto, A., Montes, J. M., Goikolea, J. M., Saiz-Ruiz, J., Prieto, E., & Vieta, E. (2012). Predictors of recurrence in bipolar disorders in Spain (PREBIS study data). *Journal of Affective Disorders, 141*(2–3), 406–414. doi:https://doi.org/10.1016/j.jad.2012.03.009

Guilera, G., Gómez-Benito, J., Pino, Ó., Rojo, E., Vieta, E., Cuesta, M. J., … Rejas, J. (2015). Disability in bipolar I disorder: The 36-item World Health Organization Disability Assessment Schedule 2.0. *Journal of Affective Disorders, 174*, 353–360. doi:https://doi.org/10.1016/j.jad.2014.12.028

Kumar, J., Iwabuchi, S., Oowise, S., Balain, V., Palaniyappan, L., & Liddle, P. F. (2015). Shared white-matter dysconnectivity in schizophrenia and bipolar disorder with psychosis. *45*(4), 759–770. doi:https://doi.org/10.1017/S0033291714001810

Lobban, F., Taylor, L., Chandler, C., Tyler, E., Kinderman, P., Kolamunnage-Dona, R., … Morriss, R. K. (2010). Enhanced relapse prevention for bipolar disorder by community mental health teams: cluster feasibility randomized trial. *The British journal of psychiatry: the journal of mental science, 196*(1), 59. doi:https://doi.org/10.1192/bjp.bp.109.065524

Mathew, B., Dawson, M. Y., Kozanitis, C., Bright, B., Gopinath, H., Raffa, J. D., … Lam, R. W. (2007). Psychosocial outcomes following electroconvulsive therapy in a community setting: retrospective chart review with 2-year follow-up. *The Canadian Journal of Psychiatry, 52*(9), 598–604.

Morgan, V. A., Mitchell, P. B., & Jablensky, A. V. (2005). The epidemiology of bipolar disorder: sociodemographic, disability and service utilization data from the Australian National Study of Low Prevalence (Psychotic) Disorders. *Bipolar Disorders, 7*(4), 326–337.

Pal, A., Sharan, P., & Chadda, R. K. (2017). Internalized stigma and its impact in Indian outpatients with bipolar disorder. *Psychiatry Research, 258*, 158–165.

Ratheesh, A., Davey, C. G., Daglas, R., Macneil, C., Hasty, M., Filia, K., … Cotton, S. (2017). Social and academic premorbid adjustment domains predict different functional outcomes among youth with first episode mania. *Journal of Affective Disorders, 219*, 133–140. doi:https://doi.org/10.1016/j.jad.2017.05.030

Scott, E. M., Hermens, D. F., White, D., Naismith, S. L., GeHue, J., Whitwell, B. G., … Hickie, I. B. (2015). Body mass, cardiovascular risk and metabolic characteristics of young persons presenting for mental healthcare in Sydney, Australia. *BMJ Open, 5*(3), e007066.

Solé, B., Bonnin, C. M., Torrent, C., Balanzá-Martínez, V., Tabarés-Seisdedos, R., Popovic, D., … Vieta, E. (2012). Neurocognitive impairment and psychosocial functioning in bipolar II disorder. *Acta Psychiatrica Scandinavica, 125*(4), 309–317. doi:https://doi.org/10.1111/j.1600-0447.2011.01759.x

Torrent, C., Martínez-Arán, A., Amann, B., Daban, C., Tabarés-SeisDedos, R., González-Pinto, A., … McKenna, P. (2007). Cognitive impairment in schizoaffective disorder: a comparison with non-psychotic bipolar and healthy subjects. *Acta Psychiatrica Scandinavica, 116*(6), 453–460.

Vieta, E., de Arce, R., Jimenez-Arriero, M. A., Rodriguez, A., Balanza, V., & Cobaleda, S. (2010). Detection of subclinical depression in bipolar disorder: a cross-sectional, 4-month prospective follow-up study at community mental health services (SIN-DEPRES). *J Clin Psychiatry, 71*(11), 1465–1474. doi:https://doi.org/10.4088/JCP.09m05177gre

Zubieta, J.-K., Huguelet, P., O'Neil, R. L., & Giordani, B. J. (2001). Cognitive function in euthymic bipolar I disorder. *Psychiatry Research, 102*(1), 9–20.

SAS pooled analysis references

Burdick, K., Russo, M., Frangou, S., Mahon, K., Braga, R., Shanahan, M., & Malhotra, A. (2014). Empirical evidence for discrete neurocognitive subgroups in bipolar disorder: clinical implications. *Psychol Med, 44*(14), 3083–3096.

Coulston, C. M., Bargh, D. M., Tanious, M., Cashman, E. L., Tufrey, K., Curran, G., … Malhi, G. S. (2013). Is coping well a matter of personality? A study of euthymic unipolar and bipolar patients. *Journal of Affective Disorders, 145*(1), 54–61.

Dickerson, F., Origoni, A., Stallings, C., Khushalani, S., Dickinson, D., & Medoff, D. (2010). Occupational status and social adjustment six months after hospitalization early in the course of bipolar disorder: a prospective study. *Bipolar Disorders, 12*(1), 10–20.

Dorz, S., Borgherini, G., Conforti, D., Scarso, C., & Magni, G. (2003). Depression in inpatients: bipolar vs unipolar. *Psychological Reports, 92*(3), 1031–1039.

Inder, M. L., Crowe, M. T., Luty, S. E., Carter, J. D., Moor, S., Frampton, C. M., & Joyce, P. R. (2015). Randomized, controlled trial of Interpersonal and Social Rhythm Therapy for young people with bipolar disorder. *Bipolar Disorders, 17*(2), 128–138.

Laes, J. R., & Sponheim, S. R. (2006). Does cognition predict community function only in schizophrenia?: a study of schizophrenia patients, bipolar affective disorder patients, and community control subjects. *Schizophrenia Research, 84*(1), 121–131.

Morriss, R., Scott, J., Paykel, E., Bentall, R., Hayhurst, H., & Johnson, T. (2007). Social adjustment based on reported behaviour in bipolar affective disorder. *Bipolar Disorders, 9*(1–2), 53–62.

Murray, G., Suto, M., Hole, R., Hale, S., Amari, E., & Michalak, E. E. (2011). Self-management strategies used by 'high functioning'individuals with bipolar disorder: from research to clinical practice. *Clinical Psychology & Psychotherapy, 18*(2), 95–109.

Pope, M., Dudley, R., & Scott, J. (2007). Determinants of social functioning in bipolar disorder. *Bipolar Disorders, 9*(1–2), 38–44.

Sentissi, O., Navarro, J. C., De Oliveira, H., Gourion, D., Bourdel, M. C., Baylé, F. J., … Poirier, M. F. (2008). Bipolar disorders and quality of life: the impact of attention deficit/hyperactivity disorder and substance abuse in euthymic patients. *Psychiatry Research, 161*(1), 36–42.

Serretti, A., Cavallini, M. C., Macciardi, F., Namia, C., Franchini, L., Souery, D., … Mendlewicz, J. (1999). Social adjustment and self-esteem in remitted patients with mood disorders. *European Psychiatry, 14*(3), 137–142.

Suto, M., Murray, G., Hale, S., Amari, E., & Michalak, E. E. (2010). What works for people with bipolar disorder? Tips from the experts. *Journal of Affective Disorders, 124*(1–2), 76–84.

Vierck, E., & Joyce, P. R. (2015). Influence of personality and neuropsychological ability on social functioning and self-management in bipolar disorder. *Psychiatry Research, 229*(3), 715–723.

Wong, G., & Lam, D. (1999). The development and validation of the coping inventory for prodromes of mania. *Journal of Affective Disorders, 53*(1), 57–65.

FAST pooled analysis references

Aparicio, A., Santos, J. L., Jiménez-López, E., Bagney, A., Rodríguez-Jiménez, R., & Sánchez-Morla, E. M. (2017). Emotion processing and psychosocial functioning in euthymic bipolar disorder. *Acta Psychiatrica Scandinavica, 135*(4), 339–350. doi:https://doi.org/10.1111/acps.12706

Barrera, A., Vazquez, G., Tannenhaus, L., Lolich, M., & Herbst, L. (2013). Theory of mind and functionality in bipolar patients with symptomatic remission. *Revista De Psiquiatria Y Salud Mental, 6*(2), 67. doi:https://doi.org/10.1016/j.rpsmen.2012.07.003

Becerra, R., Cruise, K., Harms, C., Allan, A., Bassett, D., Hood, S., & Murray, G. (2015). Emotion regulation and residual depression predict psychosocial functioning in bipolar disorder: Preliminary study. *Universitas Psychologica, 14*(3), 855–864. doi:10.11144/Javeriana.upsy14-3.errp

Bonnín, C. D. M., González-Pinto, A., Solé, B., Reinares, M., González-Ortega, I., Alberich, S., … Torrent, C. (2014). Verbal memory as a mediator in the relationship between subthreshold depressive symptoms and functional outcome in bipolar disorder. *Journal of Affective Disorders, 160*, 50–54. doi:https://doi.org/10.1016/j.jad.2014.02.034

Bonnin, C. M., Reinares, M., Martínez-Arán, A., Balanzá-Martínez, V., Sole, B., Torrent, C., … Vieta, E. (2016). Effects of functional remediation on neurocognitively impaired bipolar patients: enhancement of verbal memory. *46*(2), 291–301. doi:https://doi.org/10.1017/S0033291715001713

Bonnin, C. M., Torrent, C., Arango, C., Amann, B. L., Solé, B., González-Pinto, A., … Martinez-Aran, A. (2016). Functional remediation in bipolar disorder: 1-year follow-up of neurocognitive and functional outcome. *The British journal of psychiatry: the journal of mental science, 208*(1), 87. doi:https://doi.org/10.1192/bjp.bp.114.162123

Bonnín, C. M., Yatham, L. N., Michalak, E. E., Martínez-Arán, A., Dhanoa, T., Torres, I., … Reinares, M. (2018). Psychometric properties of the well-being index (WHO-5) spanish version in a sample of euthymic patients with bipolar disorder. *Journal of Affective Disorders, 228*, 153–159. doi:https://doi.org/10.1016/j.jad.2017.12.006

Bradley, A., Webb-Mitchell, R., Hazu, A., Slater, N., Middleton, B., Gallagher, P., … Anderson, K. (2017). Sleep and circadian rhythm disturbance

in bipolar disorder. *Psychol Med, 47*(9), 1678–1689.

Carvalho, A. F., R. Nunes-Neto, P., S. Castelo, M., S. Macêdo, D., Dimellis, D., G. Soeiro-de-Souza, M., … N. Fountoulakis, K. (2014). Screening for bipolar depression in family medicine practices: Prevalence and clinical correlates. *Journal of Affective Disorders, 162*, 120–127. doi:https://doi.org/10.1016/j.jad.2014.03.040

Chan, S. H. W., & Tse, S. (2018). Coping with amplified emotionality among people with bipolar disorder: A longitudinal study. *Journal of Affective Disorders, 239*, 303–312. doi:https://doi.org/10.1016/j.jad.2018.07.025

Dargél, A. A., Godin, O., Etain, B., Hirakata, V., Azorin, J.-M., M'bailara, K., … Passerieux, C. (2017). Emotional reactivity, functioning, and C-reactive protein alterations in remitted bipolar patients: clinical relevance of a dimensional approach. *Australian & New Zealand Journal of Psychiatry, 51*(8), 788–798.

de Dios, C., González-Pinto, A., Montes, J. M., Goikolea, J. M., Saiz-Ruiz, J., Prieto, E., & Vieta, E. (2012). Predictors of recurrence in bipolar disorders in Spain (PREBIS study data). *Journal of Affective Disorders, 141*(2–3), 406–414. doi:https://doi.org/10.1016/j.jad.2012.03.009

Forcada, I., Mur, M., Mora, E., Vieta, E., Bartrés-Faz, D., & Portella, M. J. (2015). The influence of cognitive reserve on psychosocial and neuropsychological functioning in bipolar disorder. *European Neuropsychopharmacology, 25*(2), 214–222. doi:https://doi.org/10.1016/j.euroneuro.2014.07.018

Grande, I., Hidalgo-Mazzei, D., Nieto, E., Mur, M., Sàez, C., Forcada, I., & Vieta, E. (2015). Asenapine prescribing patterns in the treatment of manic in- and outpatients: Results from the MANACOR study. *European Psychiatry, 30*(4), 528–534. doi:https://doi.org/10.1016/j.eurpsy.2015.01.003

Gubert, C., Moritz, C. E. J., Vasconcelos-Moreno, M. P., dos Santos, B. T. M. Q., Sartori, J., Fijtman, A., … da Silva Magalhães, P. V. (2016). Peripheral adenosine levels in euthymic patients with bipolar disorder. *Psychiatry Research, 246*, 421–426.

Henry, C., Godin, O., Courtet, P., Azorin, J. M., Gard, S., Bellivier, F., … Etain, B. (2017). Outcomes for bipolar patients assessed in the French expert center network: A 2-year follow-up observational study (FondaMental Advanced Centers of Expertise for Bipolar Disorder [FACE-BD]. *Bipolar Disorders, 19*(8), 651–660. doi:https://doi.org/10.1111/bdi.12539

Hidalgo-Mazzei, D., Mateu, A., Reinares, M., Murru, A., del Mar Bonnín, C., Varo, C., … Sánchez-Moreno, J. (2016). Psychoeducation in bipolar disorder with a SIMPLe smartphone application: feasibility, acceptability and satisfaction. *Journal of Affective Disorders, 200*, 58–66.

Jensen, J. H., Støttrup, M. M., Nayberg, E., Knorr, U., Ullum, H., Purdon, S. E., … Miskowiak, K. W. (2015). Optimising screening for cognitive dysfunction in bipolar disorder: Validation and evaluation of objective and subjective tools. *Journal of Affective Disorders, 187*, 10–19. doi:https://doi.org/10.1016/j.jad.2015.07.039

Jiménez, E., Solé, B., Arias, B., Mitjans, M., Varo, C., Reinares, M., … Benabarre, A. (2018). Characterizing decision-making and reward processing in bipolar disorder: A cluster analysis. *European Neuropsychopharmacology, 28*(7), 863–874. doi:https://doi.org/10.1016/j.euroneuro.2018.04.001

Jiménez-López, E., Sánchez-Morla, E. M., Aparicio, A. I., López-Villarreal, A., Martínez-Vizcaíno, V., Rodriguez-Jimenez, R., … Santos, J. L. (2018). Psychosocial functioning in patients with psychotic and non-psychotic bipolar I disorder. A comparative study with individuals with schizophrenia. *Journal of Affective Disorders, 229*, 177–185. doi:https://doi.org/10.1016/j.jad.2017.12.094

Kirsa, M. D., Maj, V., Lars, V. K., & Kamilla, W. M. (2015). Effects of Short-Term Cognitive Remediation on Cognitive Dysfunction in Partially or Fully Remitted Individuals with Bipolar Disorder: Results of a Randomized Controlled Trial. *Plos One, 10*(6), e0127955. doi:https://doi.org/10.1371/journal.pone.0127955

Lahera, G., Ruiz-Murugarren, S., Fernández-Liria, A., Saiz-Ruiz, J., Buck, B. E., & Penn, D. L. (2016). Relationship between olfactory function and social cognition in euthymic bipolar patients. *CNS Spectrums, 21*(1), 53. doi:https://doi.org/10.1017/S1092852913000382

Lahera, M. G., Ruiz-Murugarren, M. S., Iglesias, M. P., Ruiz-Bennasar, M. C., Herrería, M. E., Montes, M. J., & Fernández-Liria, M. A. (2012). Social Cognition and Global Functioning in Bipolar Disorder. *The Journal of nervous and mental disease, 200*(2), 135–141. doi:https://doi.org/10.1097/NMD.0b013e3182438eae

Mora, E., Portella, M. J., Forcada, I., Vieta, E., & Mur, M. (2013). Persistence of cognitive impairment and its negative impact on psychosocial functioning in lithium-treated, euthymic bipolar patients: a 6-year follow-up study. *Psychol Med, 43*(6), 1187. doi:https://doi.org/10.1017/S0033291712001948

Mora, E., Portella, M. J., Forcada, I., Vieta, E., & Mur, M. (2016). A preliminary longitudinal study on the cognitive and functional outcome of bipolar excellent lithium responders. *Comprehensive Psychiatry, 71*, 25–32. doi:https://doi.org/10.1016/j.comppsych.2016.07.008

Moro, M. F., Colom, F., Floris, F., Pintus, E., Pintus, M., Contini, F., & Carta, M. G. (2012). Validity and Reliability of the Italian Version of the Functioning Assessment Short Test (FAST) in Bipolar Disorder. *Clinical Practice and Epidemiology in Mental Health: CP & EMH, 8*(1), 67. doi:https://doi.org/10.2174/1745017901208010067

Ng, T. H., Chung, K.-F., Lee, C.-T., Yeung, W.-F., & Ho, F. Y. (2016). Eveningness and its associated impairments in remitted bipolar disorder. *Behavioral Sleep Medicine, 14*(6), 650–664.

Pinho, M., Sehmbi, M., Cudney, L. E., Kauer-Sant' Anna, M., Magalhães, P. V., Reinares, M., … Rosa, A. R. (2016). The association between biological rhythms, depression, and functioning in bipolar disorder: a large multi-center study. *Acta Psychiatrica Scandinavica, 133*(2), 102–108. doi:https://doi.org/10.1111/acps.12442

Reinares, M., Del Mar Bonnín, C., Hidalgo-Mazzei, D., Undurraga, J., Mur, M., Nieto, E., … Vieta, E. (2015). Making sense of DSM-5 mania with depressive features. *Australian & New Zealand Journal of Psychiatry, 49*(6), 540–549. doi:https://doi.org/10.1177/0004867415585583

Rosa, A. R., Franco, C., Martínez-Aran, A., Sánchez-Moreno, J., Salamero, M., Valenti, M., … Vieta, E. (2008). Functional impairment and previous suicide attempts in bipolar disorder. *Acta Neuropsychiatrica, 20*(6), 300–306. doi:https://doi.org/10.1111/j.1601-5215.2008.00339.x

Rosa, A. R., González-Ortega, I., González-Pinto, A., Echeburúa, E., Comes, M., Martínez-Àran, A., … Vieta, E. (2012). One-year psychosocial functioning in patients in the early vs. late stage of bipolar disorder. *Acta Psychiatrica Scandinavica, 125*(4), 335–341. doi:https://doi.org/10.1111/j.1600-0447.2011.01830.x

Rosa, A. R., Magalhaes, P. V., Czepielewski, L., Sulzbach, M. V., Goi, P. D., Vieta, E., … Kapczinski, F. (2014). Clinical staging in bipolar disorder: focus on cognition and functioning. *J Clin Psychiatry, 75*(5), e450–456. doi:https://doi.org/10.4088/JCP.13 m08625.

Rosa, A. R., Reinares, M., Amann, B., Popovic, D., Franco, C., Comes, M., … Vieta, E. (2011). Six-month functional outcome of a bipolar disorder cohort in the context of a specialized-care program. *Bipolar Disorders, 13*(7–8), 679–686. doi:https://doi.org/10.1111/j.1399-5618.2011.00964.x

Rosa, A. R., Reinares, M., Franco, C., Comes, M., Torrent, C., Sánchez-Moreno, J., … Vieta, E. (2009). Clinical predictors of functional outcome of

bipolar patients in remission. *Bipolar Disorders, 11*(4), 401–409. doi:https://doi.org/10.1111/j.1399-5618.2009.00698.x

Rosa, A. R., Reinares, M., Michalak, E. E., Bonnin, C. M., Sole, B., Franco, C., … Vieta, E. (2010). Functional Impairment and Disability across Mood States in Bipolar Disorder. *Value in Health, 13*(8), 984–988. doi:https://doi.org/10.1111/j.1524-4733.2010.00768.x

Rosa, A. R., Sánchez-Moreno, J., Martínez-Aran, A., Salamero, M., Torrent, C., Reinares, M., … Vieta, E. (2007). Validity and reliability of the Functioning Assessment Short Test (FAST) in bipolar disorder. *Clinical Practice and Epidemiology in Mental Health: CP & EMH, 3*(1), 5–5. doi:https://doi.org/10.1186/1745-0179-3-5

Roux, P., Raust, A., Cannavo, A. S., Aubin, V., Aouizerate, B., Azorin, J. M., … Passerieux, C. (2017). Cognitive profiles in euthymic patients with bipolar disorders: results from the FACE-BD cohort. *Bipolar Disorders, 19*(2), 146–153. doi:https://doi.org/10.1111/bdi.12485

Salles, F. H. M., Soares, P. S. M., Wiener, C. D., Mondin, T. C., Da Silva, P. M., Jansen, K., … Oses, J. P. (2017). Mental disorders, functional impairment, and nerve growth factor. *Psychology Research and Behavior Management, 10*, 9. doi:https://doi.org/10.2147/PRBM.S104814

Samalin, L., Boyer, L., Murru, A., Pacchiarotti, I., Reinares, M., Bonnin, C. M., … De Chazeron, I. (2017). Residual depressive symptoms, sleep disturbance and perceived cognitive impairment as determinants of functioning in patients with bipolar disorder. *Journal of Affective Disorders, 210*, 280–286.

Samalin, L., de Chazeron, I., Vieta, E., Bellivier, F., & Llorca, P. M. (2016). Residual symptoms and specific functional impairments in euthymic patients with bipolar disorder. *Bipolar Disorders, 18*(2), 164–173.

Sanchez-Autet, M., Arranz, B., Safont, G., Sierra, P., Garcia-Blanco, A., de La Fuente, L., … García-Portilla, M. P. (2018). Gender differences in C-reactive protein and homocysteine modulation of cognitive performance and real-world functioning in bipolar disorder. *Journal of Affective Disorders, 229*, 95–104. doi:https://doi.org/10.1016/j.jad.2017.12.038

Sanchez-Moreno, J., Bonnín, C., González-Pinto, A., Amann, B. L., Solé, B., Balanzá-Martínez, V., … Torrent, C. (2017). Do patients with bipolar disorder and subsyndromal symptoms benefit from functional remediation? A 12-month follow-up study. *European Neuropsychopharmacology, 27*(4), 350–359. doi:https://doi.org/10.1016/j.euroneuro.2017.01.010

Smith, D. J., Griffiths, E., Poole, R., Di Florio, A., Barnes, E., Kelly, M. J., … Simpson, S. (2011). Beating Bipolar: exploratory trial of a novel internet-based psychoeducational treatment for bipolar disorder. *Bipolar Disorders, 13*(5–6), 571–577. doi:https://doi.org/10.1111/j.1399-5618.2011.00949.x

Szmulewicz, A. G., Valerio, M. P., Lomastro, J., Smith, J. M., Chiappe, V., Martino, D. J., & Igoa, A. (2018). Neurocognitive functioning in first-episode Bipolar Disorder: Relationship with functional status. *Journal of Affective Disorders, 228*, 97–100. doi:https://doi.org/10.1016/j.jad.2017.12.015

Torrent, C., Bonnin, C. D. M., Martínez-Arán, A., Valle, J., Amann, B. L., González-Pinto, A., … Vieta, E. (2013). Efficacy of functional remediation in bipolar disorder: a multicenter randomized controlled study.(Clinical report)(Author abstract). *American Journal of Psychiatry, 170*(8), 852. doi:https://doi.org/10.1176/appi.ajp.2012.12070971

Varo, C., Jimenez, E., Solé, B., Bonnín, C., Torrent, C., Valls, E., … Vieta, E. (2017). Social cognition in bipolar disorder: focus on emotional intelligence. *Journal of Affective Disorders, 217*, 210–217.

Vasconcelos-Moreno, M. P., Bücker, J., Bürke, K. P., Czepielewski, L., Santos, B. T., Fijtman, A., … Kauer-Sant'Anna, M. (2016). Cognitive performance and psychosocial functioning in patients with bipolar disorder, unaffected siblings, and healthy controls. *Revista brasileira de psiquiatria (Sao Paulo, Brazil: 1999), 38*(4), 275. doi:https://doi.org/10.1590/1516-4446-2015-1868

Zhang, Y., Long, X., Ma, X., He, Q., Luo, X., Bian, Y., … Xiang, Y.-T. (2018). Psychometric properties of the Chinese version of the Functioning Assessment Short Test (FAST) in bipolar disorder. *Journal of Affective Disorders, 238*, 156–160. doi:https://doi.org/10.1016/j.jad.2018.05.019

Zyto, S., Jabben, N., Schulte, P. F., Regeer, B. J., & Kupka, R. W. (2016). A pilot study of a combined group and individual functional remediation program for patients with bipolar I disorder. *Journal of Affective Disorders, 194*, 9–15.

SFS pooled analysis references

Hardy, C., Rosedale, M., Messinger, J. W., Kleinhaus, K., Aujero, N., Silva, H., … Malaspina, D. (2012). Olfactory acuity is associated with mood and function in a pilot study of stable bipolar disorder patients. *Bipolar Disorders, 14*(1), 109–117. doi:https://doi.org/10.1111/j.1399-5618.2012.00986.x

Haug, E., Øie, M., Andreassen, O. A., Bratlien, U., Raballo, A., Nelson, B., … Melle, I. (2014). Anomalous self-experiences contribute independently to social dysfunction in the early phases of schizophrenia and psychotic bipolar disorder. *Comprehensive Psychiatry, 55*(3), 475. doi:https://doi.org/10.1016/j.comppsych.2013.11.010

Hellvin, T., Sundet, K., Aminoff, S. R., Andreassen, O. A., & Melle, I. (2013). Social functioning in first contact mania: Clinical and neurocognitive correlates. *Comprehensive Psychiatry, 54*(5), 432–438. doi:https://doi.org/10.1016/j.comppsych.2012.12.016

Hellvin, T., Sundet, K., Vaskinn, A., Simonsen, C., Ueland, T., Andreassen, O. A., & Melle, I. (2010). Validation of the Norwegian version of the Social Functioning Scale (SFS) for schizophrenia and bipolar disorder. *Scandinavian Journal of Psychology, 51*(6), 525–533. doi:https://doi.org/10.1111/j.1467-9450.2010.00839.x

Nanda, P., Tandon, N., Mathew, I. T., Padmanabhan, J. L., Clementz, B. A., Pearlson, G. D., … Keshavan, M. S. (2016). Impulsivity across the psychosis spectrum: Correlates of cortical volume, suicidal history, and social and global function. *Schizophrenia Research, 170*(1), 80–86. doi:https://doi.org/10.1016/j.schres.2015.11.030

Saito, S., Fujii, K., Ozeki, Y., Ohmori, K., Honda, G., Mori, H., … Akiyama, K. (2017). Cognitive function, treatment response to lithium, and social functioning in Japanese patients with bipolar disorder. *Bipolar Disorders, 19*(7), 552–562. doi:https://doi.org/10.1111/bdi.12521

Simonsen, C., Sundet, K., Vaskinn, A., Ueland, T., Romm, K. L., Hellvin, T., … Andreassen, O. A. (2010). Psychosocial function in schizophrenia and bipolar disorder: Relationship to neurocognition and clinical symptoms. *J Int Neuropsychol Soc, 16*(5), 771–783. doi:https://doi.org/10.1017/S1355617710000573

Vuillier, L., Hermens, D. F., Chitty, K., Wang, C., Kaur, M., Ward, P. B., … Lagopoulos, J. (2015). Emotional Processing, P50 Sensory Gating, and Social Functioning in Bipolar Disorder. *Clinical EEG And Neuroscience, 46*(2), 81–87. doi:https://doi.org/10.1177/1550059414523417

Wang, Z., Meda, S. A., Keshavan, M. S., Tamminga, C. A., Sweeney, J. A., Clementz, B. A., … Pearlson, G. D. (2015). Large-Scale Fusion of Gray Matter and Resting-State Functional MRI Reveals Common and Distinct Biological Markers across the Psychosis Spectrum in the B-SNIP Cohort. *Front Psychiatry, 6*, 174. doi:https://doi.org/10.3389/fpsyt.2015.00174

Yasuyama, T., Ohi, K., Shimada, T., Uehara, T., & Kawasaki, Y. (2017). Differences in social functioning among patients with major psychiatric disorders: Interpersonal communication is impaired in patients with schizophrenia and correlates with an increase in schizotypal traits. *Psychiatry*

Research, 249, 30–34. doi:https://doi.org/10.1016/j.psychres.2016.12.053

LIFE-RIFT pooled analysis references

Berk, M., Copolov, D. L., Dean, O., Lu, K., Jeavons, S., Schapkaitz, I., … Bush, A. I. (2008). N-Acetyl Cysteine for Depressive Symptoms in Bipolar Disorder—A Double-Blind Randomized Placebo-Controlled Trial. *Biological Psychiatry, 64*(6), 468–475. doi:https://doi.org/10.1016/j.biopsych.2008.04.022

Best, M. W., Bowie, C. R., Naiberg, M. R., Newton, D. F., & Goldstein, B. I. (2017). Neurocognition and psychosocial functioning in adolescents with bipolar disorder. *Journal of Affective Disorders, 207*, 406–412. doi:https://doi.org/10.1016/j.jad.2016.09.063

Deckersbach, T., Hölzel, B. K., Eisner, L. R., Stange, J. P., Peckham, A. D., Dougherty, D. D., … Nierenberg, A. A. (2012). Mindfulness-Based Cognitive Therapy for Nonremitted Patients with Bipolar Disorder. *CNS Neuroscience & Therapeutics, 18*(2), 133–141. doi:https://doi.org/10.1111/j.1755-5949.2011.00236.x

Deckersbach, T., Nierenberg, A. A., McInnis, M. G., Salcedo, S., Bernstein, E. E., Kemp, D. E., … Kamali, M. (2016). Baseline disability and poor functioning in bipolar disorder predict worse outcomes: results from the Bipolar CHOICE study. *J Clin Psychiatry, 77*(1), 100–108. doi:https://doi.org/10.4088/JCP.14 m09210.

Deckersbach, T. N., Andrew A.; Kessler, Ronald; Lund, Hannah G.; Ametrano, Rebecca M.; Sachs, Gary; Rauch, Scott L.; Dougherty, Darin. (2010). Cognitive Rehabilitation for Bipolar Disorder: An Open Trial for Employed Patients with Residual Depressive Symptoms. *CNS Neuroscience & Therapeutics, 16*(5), 298.

Godard, J., Baruch, P., Grondin, S., & Lafleur, M. F. (2012). Psychosocial and neurocognitive functioning in unipolar and bipolar depression: A 12-month prospective study. *Psychiatry Research, 196*(1), 145–153. doi:https://doi.org/10.1016/j.psychres.2011.09.013

Godard, J., Grondin, S., Baruch, P., & Lafleur, M. F. (2011). Psychosocial and neurocognitive profiles in depressed patients with major depressive disorder and bipolar disorder. *Psychiatry Research, 190*(2–3), 244–252. doi:https://doi.org/10.1016/j.psychres.2011.06.014

Judd, L. L., Schettler, P. J., Solomon, D. A., Maser, J. D., Coryell, W., Endicott, J., & Akiskal, H. S. (2008). Psychosocial disability and work role function compared across the long-term course of bipolar I, bipolar II and unipolar major depressive disorders. *Journal of Affective Disorders, 108*(1), 49–58. doi:https://doi.org/10.1016/j.jad.2007.06.014

Simon, N. M., Pollack, M. H., Fischmann, D., Perlman, C. A., Muriel, A. C., Moore, C. W., … Shear, M. K. (2005). Complicated grief and its correlates in patients with bipolar disorder. *J Clin Psychiatry, 66*(9), 1105–1110.

Sylvia, L. G., Rabideau, D. J., Nierenberg, A. A., Bowden, C. L., Friedman, E. S., Iosifescu, D. V., … Reilly-Harrington, N. (2014). The effect of personalized guideline-concordant treatment on quality of life and functional impairment in bipolar disorder. *Journal of Affective Disorders, 169*, 144–148. doi:https://doi.org/10.1016/j.jad.2014.08.019

Sylvia, L. G., Thase, M. E., Reilly-Harrington, N. A., Salcedo, S., Brody, B., Kinrys, G., … Deckersbach, T. (2015). Psychotherapy use in bipolar disorder: Association with functioning and illness severity. *Australian & New Zealand Journal of Psychiatry, 49*(5), 453–461. doi:https://doi.org/10.1177/0004867415569803

References

Almerie, M. Q., Okba Al Marhi, M., Jawoosh, M., Alsabbagh, M., Matar, H. E., Maayan, N., & Bergman, H. (2018). *Social skills programmes for schizophrenia. 9(6)*https://doi.org/10.1002/14651858.CD009006.pub2.

American Psychiatric Association (1994). *Diagnostic and statistical manual of mental disorders: DSM-IV* (4th ed.). Washington, D.C.: American Psychiatric Association.

Andreou, C., & Bozikas, V. P. (2013). The predictive significance of neurocognitive factors for functional outcome in bipolar disorder. *Current Opinion in Psychiatry, 26*(1), 54–59. https://doi.org/10.1097/YCO.0b013e32835a2acf.

Arnold, L. M., Witzeman, K. A., Swank, M. L., McElroy, S. L., & Keck, P. E., Jr. (2000). Health-related quality of life using the SF-36 in patients with bipolar disorder compared with patients with chronic back pain and the general population. *Journal of Affective Disorders, 57*(1), 235–239. https://doi.org/10.1016/S0165-0327(99)00042-7.

Ávila, C. C., Cabello, M., Cieza, A., Vieta, E., & Ayuso-Mateos, J. L. (2010). *Functioning and disability in bipolar disorders: A systematic review of literature using the ICF as a reference. Vol. 12*, Oxford: UK473–482.

Aydemir, O., Eren, I., Savas, H., Oguzhanoglu, N., Kocal, N., Ozguven, H. D., ... Vahip, S. (2007). Development of a questionnaire to assess inter- episode functioning in bipolar disorder: Bipolar disorder functioning questionnaire. *Türk Psikiyatri Dergisi, 18*(4), 344–352.

Birchwood, M., Smith, J., Cochrane, R., Wetton, S., & Copestake, S. (1990). The social functioning scale. The development and validation of a new scale of social adjustment for use in family intervention programmes with schizophrenic patients. *British Journal of Psychiatry, 157*, 853–859.

Carlborg, A., Ferntoft, L., Thuresson, M., & Bodegard, J. (2015). Population study of disease burden, management, and treatment of bipolar disorder in Sweden: A retrospective observational registry study. *Bipolar Disorders, 17*(1), 76–85. https://doi.org/10.1111/bdi.12234.

Cohen, J. (1988). In N. J. Hillsdale (Ed.). *Statistical power analysis for the behavioral sciences [electronic resource]*(2nd ed.). Lawrence Erlbaum Associates.

Dean, B. B., Gerner, D., & Gerner, R. H. (2004). A systematic review evaluating health-related quality of life, work impairment, and healthcare costs and utilization in bipolar disorder. *Current Medical Research and Opinion, 20*(2), 139–154. https://doi.org/10.1185/030079903125002801.

Endicott, J., Spitzer, R. L., Fleiss, J. L., & Cohen, J. (1976). The global assessment scale: A procedure for measuring overall severity of psychiatric disturbance. *Archives of General Psychiatry, 33*(6), 766–771.

Ghaemi, N. (2011). *A first-rate madness: Uncovering the links between leadership and mental illness.* New York, NY, US: Penguin Press.

Gitlin, M. J., & Miklowitz, D. J. (2017). The difficult lives of individuals with bipolar disorder: A review of functional outcomes and their implications for treatment. *Journal of Affective Disorders, 209*, 147–154. https://doi.org/10.1016/j.jad.2016.11.021.

Goldman, H. H., Skodol, A. E., & Lave, T. R. (1992). Revising axis V for DSM-IV: A review of measures of social functioning. (diagnostic and statistical manual of mental disorders) (special article). *American Journal of Psychiatry, 149*(9), 1148. https://doi.org/10.1176/ajp.149.9.1148.

Goodwin, F. K. (2007). *Manic-depressive illness: bipolar disorders and recurrent depression* (2nd ed.). Oxford: Oxford: Oxford University Press.

Gurland, B. J., Yorkston, N. J., Goldberg, K., Fleiss, J. L., Sloane, R., & Cristol, A. H. (1972). The structured and scaled interview to assess maladjustment (ssiam): Ii. Factor analysis, reliability, and validity. *Archives of General Psychiatry, 27*(2), 264–267. https://doi.org/10.1001/archpsyc.1972.01750260106018.

Gurland, B. J., Yorkston, N. J., Stone, A. R., Frank, J. D., & Fleiss, J. L. (1972). The structured and scaled interview to assess maladjustment (ssiam): I. description, rationale, and development. *Archives of General Psychiatry, 27*(2), 259–264. https://doi.org/10.1001/archpsyc.1972.01750260101017.

Hellvin, T., Sundet, K., Vaskinn, A., Simonsen, C., Ueland, T., Andreassen, O. A., & Melle, I. (2010). Validation of the Norwegian version of the social functioning scale (SFS) for schizophrenia and bipolar disorder. *Scandinavian Journal of Psychology, 51*(6), 525–533. https://doi.org/10.1111/j.1467-9450.2010.00839.x.

Hogarty, G. E., Schooler, N. R., Ulrich, R., Mussare, F., Ferro, P., & Herron, E. (1979). Fluphenazine and social therapy in the aftercare of schizophrenic patients: Relapse analyses of a two-year controlled study of fluphenazine decanoate and fluphenazine hydrochloride. *Archives of General Psychiatry, 36*(12), 1283–1294.

Jamison, K. R. (1993). *Touched with fire: Manic-depressive illness and the artistic temperament.* New York: Toronto: New York: New York: Free press; Toronto: Maxwell Macmillan CanadaNew York: Maxwell Macmillan International.

Johnson, S. L., Murray, G., Fredrickson, B., Youngstrom, E. A., Hinshaw, S., Bass, J. M., ... Salloum, I. (2011). Creativity and bipolar disorder: Touched by fire or burning with questions? *Clinical Psychology Review*. https://doi.org/10.1016/j.cpr.2011.10.001.

Jones, S. H., Smith, G., Mulligan, L. D., Lobban, F., Law, H., Dunn, G., ... Morrison, A. P. (2015). Recovery- focused cognitive- behavioural therapy for recent- onset bipolar disorder: Randomised controlled pilot trial. *The British Journal of Psychiatry: The Journal of Mental Science, 206*(1), 58. https://doi.org/10.1192/bjp.bp.113.141259.

Justo, L., Soares, B. G. D. O., & Calil, H. (2018). *Family interventions for bipolar disorder*.

Keller, M. B., Lavori, P. W., Friedman, B., Nielsen, E., Endicott, J., McDonald-Scott, P., & Andreasen, N. C. (1987). The longitudinal interval follow-up evaluation. A comprehensive method for assessing outcome in prospective longitudinal studies. *Archives of General Psychiatry, 44*(6), 540–548.

Kinoshita, Y., Furukawa, T. A., Kinoshita, K., Honyashiki, M., Omori, I. M., Marshall, M., ... Kingdon, D. (2013). Supported employment for adults with severe mental illness.

Cochrane Database of Systematic Reviews, 9, Cd008297. https://doi.org/10.1002/14651858.CD008297.pub2.

Leon, A. C., Solomon, D. A., Mueller, T. I., Endicott, J., Posternak, M., Judd, L. L., ... Keller, M. B. (2000). A brief assessment of psychosocial functioning of subjects with bipolar I disorder: The LIFE-RIFT. Longitudinal interval follow-up evaluation-range impaired functioning tool. *The Journal of Nervous and Mental Disease, 188*(12), 805. https://doi.org/10.1097/00005053-200012000-00003.

Leon, A. C., Solomon, D. A., Mueller, T. I., Turvey, C. L., Endicott, J., & Keller, M. B. (1999). The range of impaired functioning tool (LIFE-RIFT): A brief measure of functional impairment. *Psychological Medicine, 29*(4), 869–878.

Macqueen, G. M., Young, L. T., & Joffe, R. T. (2001). *A review of psychosocial outcome in patients with bipolar disorder. Vol. 103*, 163–170 (Copenhagen).

Marwaha, S., Durrani, A., & Singh, S. (2013). *Employment outcomes in people with bipolar disorder: A systematic review. Vol. 128*, 179–193.

Michalak, E., Jones, S., Lobban, F., Algorta, G., Barnes, S., Berk, L., ... Johnson, S. (2016). Harnessing the potential of community-based participatory research approaches in bipolar disorder. *International Journal of Bipolar Disorders, 4*(1), 1–9. https://doi.org/10.1186/s40345-016-0045-5.

Morosini, P., Magliano, L., Brambilla, L., Ugolini, S., & Pioli, R. (2000). Development, reliability and acceptability of a new version of the DSM- IV Social and Occupational Functioning Assessment Scale (SOFAS) to assess routine social funtioning. *Acta Psychiatrica Scandinavica, 101*(4), 323–329.

NICE (2014). *The assessment and management of bipolar disorder in adults, children and young people in primary and secondary care.* London: National Institute for Health and Clinical Excellence. Retrieved from https://www.nice.org.uk/guidance/cg185.

Paul, G. L., & Lentz, R. J. (1977). *Psychological treatment of chronic mental patients: Milieu versus social-learning programs.* Harvard University Press.

Rosa, A. R., Sánchez-Moreno, J., Martínez-Aran, A., Salamero, M., Torrent, C., Reinares, M., ... Vieta, E. (2007). Validity and reliability of the functioning assessment short test (FAST) in bipolar disorder. *Clinical Practice and Epidemiology in Mental Health: CP & EMH, 3*(1), 5. https://doi.org/10.1186/1745-0179-3-5.

Salkind, N. J. (2010). *Encyclopedia of research design* (Thousand Oaks, Calif)Thousand Oaks, Calif: SAGE Publications.

Schoeyen, H. K., Birkenaes, A. B., Vaaler, A. E., Auestad, B. H., Malt, U. F., Andreassen, O. A., & Morken, G. (2011). Bipolar disorder patients have similar levels of education but lower socio- economic status than the general population. *Journal of Affective Disorders, 129*(1), 68–74. https://doi.org/10.1016/j.jad.2010.08.012.

Weissman, M. M. (1974). *The depressed woman: A study of social relationships.* Chicago: University of Chicago Press.

Weissman, M. M., & Bothwell, S. (1976). Assessment of social adjustment by patient self-report. *Archives of General Psychiatry, 33*(9), 1111–1115.

Weissman, M. M., Prusoff, B. A., Thompson, W. D., Harding, P. S., & Myers, J. K. (1978). Social adjustment by self- report in a community sample and in psychiatric outpatients. *The Journal of Nervous and Mental Disease, 166*(5), 317. https://doi.org/10.1097/00005053-197805000-00002.

WHO (1980). International classification of impairments, disabilities, and handicaps: A manual of classification relating to the consequences of disease. *Published in accordance with resolution WHA29.35 of the Twenty-ninth World Health Assembly, May 1976* (Retrieved from Geneva).

Nadia Akers was awarded a BSc (Hons) in Psychology from Lancaster University in 2014. She is currently undertaking a PhD in Health Research within the Spectrum Centre for Mental Health Research at Lancaster University with a focus on higher social and occupational functioning and flourishing in bipolar disorder.

Fiona Lobban is Professor of Clinical Psychology and Co-Director of the Spectrum Centre for Mental Health Research at Lancaster University and Honorary Consultant Clinical Psychologist with Lancashire Care NHS Trust. Her work has focused on the development, evaluation and implementation of psychosocial interventions for people with long-term mental health problems including bipolar disorder and psychosis. She has a particular interest in working with social networks including family, groups, and peer support.

Claire Hilton was awarded a BSc (Hons) Psychology in 2013 and subsequently completed an MRes in Health Research in 2016 while attending Lancaster University. Currently, Ms. Hilton is completing an ESRC funded PhD in Health Research with a focus on mental health in particular the effect on those caring for individuals with psychosis and schizophrenia.

Katerina Panagaki completed her first degree in Germany on social anthropology and philosophy. She received her MSc in Psychological Studies (MBPsS) from Glasgow University in 2013. She is currently towards the end of her PhD with NIHR, CLAHR NWC and based at Spectrum Centre, at the University of Lancaster. Her research focuses on rumination and the relation of mental health to the socioeconomic background. She has previously worked in mental health with people with complex needs and learning disabilities both in the UK and abroad.

Steven H Jones obtained his PhD from the University of London in 1989. Since 2008 he has been Professor of Clinical Psychology and the Spectrum Centre for Mental Research in Lancaster with a research focus on the psychological understanding and treatment of people living with bipolar disorder and related conditions.