Staff attitudes towards individuals with a diagnosis of Borderline Personality Disorder

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Thesis Portfolio Abstract

Evidence exists to suggest that stigmatised attitudes towards individuals with Borderline Personality Disorder (BPD) are present amongst clinical staff who work with such individuals. A number of studies seek to investigate clinical staff attitudes towards BPD, with some studies considering how stigmatised attitudes can be altered. This thesis portfolio is comprised of two main components. The first is a systematic review which seeks to review and quality assess the quantitative measurement approaches utilised in studies which measure attitudes towards BPD amongst clinical staff. The data extracted is analysed via a narrative synthesis. The systematic review demonstrates that a large number of measures exist for measuring clinical staff attitudes towards BPD. However, many of these are poor in quality due to the lack of appropriate development and validation methods utilised.

The second component of the current thesis portfolio is an empirical study investigating whether clinical staff attitudes towards BPD can be altered by a psychological formulation, and whether the presence of a psychological formulation will impact the way in which clinical staff make causal attributions about the behaviour of an individual with BPD. The empirical study makes use of a between-subjects, vignette-based design, with formulation as the independent variable. The results suggest that the psychological formulation does not alter the attitudes of clinical staff towards the individual with BPD in the vignette. However, the presence of a formulation did result in participants viewing the cause of the behaviour of the individual in the vignette as more stable across similar situations. Possible reasons for these results are presented within the discussion section. An extended discussion and critical review chapter is included at the end of the thesis portfolio. This section also reflects on the process of carrying out this thesis and makes recommendations for future research.

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Chapter One: General Introduction

Thesis Portfolio

The current thesis portfolio presents a systematic review and an empirical study within the topic area of clinical staff attitudes towards individuals with a diagnosis of Borderline Personality Disorder (BPD). The systematic review component reviews the quantitative measurement approaches that have been used to measure stigmatised attitudes amongst clinical staff towards individuals with BPD. The empirical study component investigates the use of psychological formulation as a potential method of altering stigmatised attitudes amongst clinical staff towards individuals with BPD, along with investigating how clinical staff make causal attributions about the behaviour of individuals with BPD.

The current introductory chapter is presented as part of the thesis portfolio in order to provide background information on the areas of BPD, stigmatised attitudes and causal attributions.

Borderline Personality Disorder

Borderline Personality Disorder (BPD; also known as Emotionally Unstable Personality Disorder (EUPD)) is a widely recognised mental health diagnosis classified in both the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM-5*; American Psychiatric Association, 2013) and the *International Classification of Diseases* (*ICD-10*; World Health Organization, 2018). Individuals with this diagnosis experience patterns of impulsive behaviour, emotion dysregulation and cognitive distortions (National Health Service, 2016). The *DSM-5* indicates that individuals with BPD will experience impairments in their personality functioning, manifested by impairments in both self-functioning and interpersonal functioning (see *DSM-5* for the diagnostic criteria of BPD).

A 2006 prevalence study suggested a 0.7% prevalence of BPD in a UK sample (n=626) (Coid, Yang, Tyrer, Roberts, & Ullrich, 2006).

Attitudes and Stigmatised Attitudes

There is frequent debate and considerable disagreement regarding the conceptualisation of attitudes (Ferguson & Fukukura, 2012). A general definition of an attitude is suggested by Ferguson and Fukukura (2012, p. 166) as "a person's general tendency across time and situations to respond to a stimulus in a favourable or unfavourable manner". Other definitions exist (e.g. Goffman, 1963; Link & Phelan, 2001). However, a detailed review of these is outside the scope of the current thesis.

Attitudes can also be differentiated as being either implicit or explicit (Ferguson & Fukukura, 2012; Greenwald & Banaji, 1995). An explicit attitude is considered to be an attitude that is known to an individual (i.e. they are able to recognise and recall it) (Ferguson & Fukukura, 2012). On the other hand, an implicit attitude is one that is considered to exist without being introspectively known by a person (Greenwald & Banaji, 1995). It is understood that implicit and explicit attitudes are separate constructs (Greenwald & Banaji, 1995). An example of this is found in research measuring attitudes towards foreign accented speech (Pantos & Perkins, 2012).

Similarly to the concept of an attitude, there is disagreement and debate around the concept of stigmatised attitudes (Link & Phelan, 2013). Link and Phelan (2001) suggest a conceptualisation of stigmatised attitudes that recognises the connection between the concepts of stigma, labelling, stereotyping and discrimination. Therefore the process of stigmatisation occurs when someone is labelled as being different, with this label being linked with undesirable characteristics (or negative stereotypes). This creates distance and causes an 'us' and 'them' separation to occur. This is likely to result in discrimination.

Consequently, this will lead to unequal outcomes between the individual or group of individuals who are experiencing the stigma and people with stigmatised attitudes towards that individual or group of individuals. A full explanation of this conceptualisation of stigma can be found in the work of Link and Phelan (2001) and Link and Phelan (2013).

Once the individual has been labelled as different, these differences are then labelled as negative in some way. An example of this in mental illness is that someone who is in hospital due to having a mental illness is labelled as dangerous (Link & Phelan, 2013).

Stigmatisation of Borderline Personality Disorder

Individuals with BPD experience stigma more frequently than other groups of individuals with different mental illness diagnoses, for example, schizophrenia[1] (Markham & Trower, 2003). Additionally, there is evidence to suggest that clinical staff describe individuals with BPD as being more difficult to work with than other groups of patients (Cleary, Siegfried, & Walter, 2002).

In a recent review of the literature regarding the stigmatisation of personality disorders, Sheehan, Nieweglowski, and Corrigan (2016) suggest the process of stigmatisation for personality disorders to be as follows. Firstly, the individual differences are recognised. These individual differences are perceived negatively by society and thus the group of people come to be considered as an 'outgroup'. Finally, the stigmatised group of people experience a loss of opportunity, power or status. This is a similar conceptualisation of the process of stigmatisation suggested above by Link and Phelan (2001).

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[1]Criticisms about the validity of the concept of schizophrenia are noted (e.g. Bentall, 1990) but the term schizophrenia is replicated in the current thesis portfolio due to the terminology used in the cited study.

An important theory which may play a key role in maintaining the stigmatisation of individuals with BPD, and fits into the stigmatisation conceptualisation presented by Link and Phelan (2001) is that of modified labelling theory. Labelling theory when it was initially proposed suggested that once a person has been labelled with a mental illness the label will then cause behaviours pertaining to the metal illness and the mental illness would then stabilise (i.e. become further established) (Sheff, 1966 as cited in Link & Phelan, 2013). This idea was later modified to become modified labelling theory, which suggests that the stigma, which usually accompanies mental health labels, will threaten the "life circumstances" of the individuals (Link & Phelan, 2013, p. 527), and thus maintain the mental illness. The theory starts with the idea that people will develop perceptions of mental illness as part of early socialisation (Scheff, 1966 as cited in Link & Phelan, 2013). This becomes a person's lay theory of what having a mental illness means, and they will form beliefs regarding how the people around them might respond to individuals with a mental illness. When someone then develops a mental illness their expectation of being treated in a rejecting way is likely to play a role in how they behave, resulting in (for example) strained social interactions (Farina, Allen, & Saul, 1968 as cited in Link & Phelan, 2013), unemployment and income loss (Link, 1982, 1987 as cited in Link & Phelan, 2013), and poor treatment adherence (Sirey, Bruce, Alexopoulos, Perlick, Raue, et al., 2001 as cited in Link & Phelan, 2013). This reinforces the perceptions of both the stigmatised and stigmatising individuals, and thus maintains stigmatised attitudes towards individuals with mental illnesses.

As discussed further in both the systematic review and empirical study chapters of the current thesis portfolio, the experience of stigmatised attitudes towards individuals with BPD extends to clinical staff working with such individuals (e.g. Bodner, Cohen-Fridel, & Iancu, 2011; Bowers & Allan, 2006; Chartonas, Kyratsous, Dracass, Lee, & Bhui, 2017;

Lam, Salkovskis, & Hogg, 2016). A process which aligns with modified labelling theory in regards specifically to the attitudes of clinical staff towards individuals with BPD is that of a self-fulfilling prophecy. It is thought that a self-fulfilling prophecy exists which perpetuates the behaviour of the individual and the stigmatised attitudes experienced by clinical staff (Aviram, Brodsky, & Stanley, 2006). This is explained by Aviram and colleagues as a person having a negative experience of an individual with BPD resulting in that person changing their behaviour towards the individual with BPD, for example in a way which guards against some of the characteristics and emotional demands displayed in individuals with BPD. This is then likely to be perceived as rejecting by the individual with BPD, and therefore likely to cause the individual with BPD to behave in ways which attempt to overcome this perceived rejection, for example using self-harming behaviours as a way of fulfilling their need for care. However, these types of behaviours often seen in individuals with a diagnosis of BPD often contribute to stigmatised attitudes (Aviram et al., 2006; King, 2014), and therefore will fulfil expectations of staff working with the individual with BPD, thus confirming their perception of individuals with BPD. This process can result in the entwinement of the pathology of BPD and the impact of the stigmatised attitudes. This process appears to be underpinned by elements of a social cognitive perspective on attitudes (see Ferguson & Fukukura, 2012, for a review), which suggests that every encounter with a stimulus (e.g. a person with BPD) can strengthen the underlying associations (i.e. beliefs about that stimulus).

Taking into consideration the above two theories, attempts to alter stigmatising attitudes would need to consider the perceptions of staff towards the behaviour of individuals with BPD. Stigmatised perceptions are likely being further fulfilled by how the behaviours of individuals with BPD are perceived and what reactions this results in for the clinical staff. Thus understanding how particular behaviours are perceived by clinical staff

appears necessary in research relating to attitude change. Therefore, a further theoretical model to consider is that of Jones et al. (1984 as cited in Ahmedani, 2011). Jones and colleagues present a model of stigma which highlights the importance of origin. This refers to the perception regarding how the mental illness occurred and whether or not the individual is the cause of their mental illness. This idea is supported by Corrigan et al. (2000), who suggest that the amount of personal responsibility an individual is perceived as having for their mental illness will play a key role in the amount of stigma attached to the label of mental illness. The debate regarding whether it is therefore helpful to think of the origin of mental illness as being biological should not be ignored in the discussion of this particular theoretical model. If a mental illness is considered to have its roots within biology then according to this theory individuals should experience less stigmatised attitudes as they would perceive the cause of the mental illness to not be the fault of the individual experiencing the mental illness. However, Loughman and Haslam (2018) highlight that there has been mixed opinions regarding whether placing the cause of mental illness within biological explanations is helpful, or whether it increases stigma. Their systematic review goes on to suggest that neurobiological explanations are not linked to reduced blame for the mental illness. This is supported by Angermeyer, Holzinger, Carta, and Schomerus' (2011) systematic review, which suggests that biological causes of mental illness are not associated with more tolerant attitudes towards mental illness.

The origins of BPD are complex, consisting of both biological and psychosocial elements (Fonagy & Bateman, 2008). A thorough review of current evidence and literature regarding the origins of BPD is beyond the scope of the current thesis. However, evidence suggests that some elements of the origins of BPD are due to early developmental experiences (see Mosquera, Gonzalez, & Leeds, 2014, for a review of the development of BPD drawing on attachment theory). Therefore, the empirical study within the current

thesis portfolio utilises the above model regarding the origin of mental illness (Jones et al., 1984 as cited in Ahmedani, 2011) in respect to the factors which play a role in the development of the behaviours relating to BPD. The empirical study draws upon this idea as a way of attempting to alter the attitudes of clinical staff towards individuals with BPD by making use of a psychological formulation. Further discussion of this particular model is presented in the empirical study.

Attribution Theory

Following on from the work of Jones et al. (1984 as cited in Ahmedani, 2011) cited above, a further theory within which stigmatised attitudes towards individuals with BPD can be considered is that of attribution theory (Weiner, 1985). Attribution theory suggests that individuals will differentiate between internal and external causes of a person's behaviour. How the cause of something is then perceived will influence how an individual thinks, feels and behaves towards that person or thing (Weiner, 1985). For example, if a person believes that an individual is in control of behaviours relating to having a mental illness then this is likely to influence how that person thinks and feels (i.e. their attitude) about the individual and their mental illness. This idea is further supported by Aviram et al. (2006), who suggest that if a person perceives an individual to have control over their own behaviour then stigmatised attitudes are likely to be perpetuated.

Therefore, as suggested by Markham and Trower (2003), attribution theory enables a viable psychological framework for examining attitudes towards individuals with BPD amongst clinical staff, and has also been drawn upon in the empirical study component of the current thesis portfolio.

Chapter Two: Systematic Review

Quantitative approaches used to measure clinical staff attitudes towards individuals with Borderline Personality Disorder: A systematic review.

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Abstract

Purpose. A number of studies exist which quantitatively measure attitudes amongst clinical staff towards individuals with a diagnosis of Borderline Personality Disorder (BPD). The objectives of the current systematic review are to understand the properties and quality of the quantitative measurement approaches that have been used to measure clinical staff attitudes towards BPD, to enable researchers to make better informed decisions regarding measures within this particular research area.

Results. A number of different quantitative measures were identified (n=22). The majority of these were self-report questionnaire based approaches (n=20). A number of the studies developed a questionnaire or questionnaires for use within the study (n=5). However, the quality of measure development was considered to be poor across the measures reviewed. The quality of measures in regards to the psychometric properties varied across the studies.

Conclusions. There is a need for further work to be carried out regarding the construct of attitudes towards BPD, and questionnaire development and validation to measure this construct. Without this, the reported results of the studies making use of quantitative measures that have not been validated remain questionable. Questionable results will have an impact upon findings and clinical applications.

Keywords. Borderline Personality Disorder, BPD, clinical staff attitudes, measures

Highlights. See Appendix C for highlights, as per author guidelines.

Introduction

As noted in the introductory chapter of the current thesis portfolio, Borderline Personality Disorder (BPD) is mental health diagnosis (American Psychiatric Association, 2013, *DSM-5*: BPD; World Health Organization, 2018, *ICD-10*: Emotionally Unstable Personality Disorder) which is used widely within mental health settings. As the introductory chapter notes, individuals with BPD experience symptoms pertaining to impulsive behaviour, emotion dysregulation and cognitive distortions (National Health Service, 2016).

A number of studies demonstrate that stigmatised attitudes towards individuals with a diagnosis of BPD exist widely in society, including both within the individuals with the diagnosis (Catthoor, Feenstra, Hutsebaut, Schrijvers, & Sabbe, 2015) and amongst clinical staff working with such individuals (Lewis & Appleby, 1988; Chartonas, Kyratsous, Dracass, Lee, & Bhui, 2017). It has been suggested that stigmatised attitudes amongst clinical staff towards individuals with a diagnosis of BPD can be therapeutically damaging to the individual (Aviram, Brodsky, & Stanley, 2006). This will then impact upon the individual's ability to recover from their difficulties, as well as potentially contributing to the maintenance of their symptoms (Aviram et al., 2006). Furthermore, stigmatised attitudes can often lead to discrimination within health pathways (Major & Schmader, 2018) with an Australian study suggesting that individuals with a personality disorder experience discrimination when trying to access mental health services (Lawn & McMahon, 2015). Additionally, stigma may impact upon the experience of staff working with complex and challenging clients, with outcomes such as the general health of staff and their job performance being adversely affected (Bowers, Nijman, Simpson, & Jones, 2011).

For the above reasons, the area of stigmatised attitudes amongst clinical staff is an important area of research, particularly in regards to investigating how stigmatised attitudes amongst clinical staff can be reduced. Reducing stigmatised attitudes amongst clinical staff is likely to impact upon the individuals with BPD, the clinical staff and wider service. More recent studies have sought to explore and understand what can be done to reduce stigmatised attitudes amongst clinical staff (e.g. Clark, Fox, & Long, 2015; Keuroghlian et al., 2016). In research such as this, assessing stigmatised attitudes accurately is important. However, it should be noted that stigma is a latent concept relying upon theory to conceptualise it (Yang & Link, 2015). Thus measuring stigmatised attitudes can be a challenging process for researchers.

Understanding how to reduce stigma requires a valid and reliable means to assess the underlying concept. In existing studies which investigate stigmatised attitudes amongst clinical staff, a number of different measurement approaches[2] have been used. Understanding the quality of the measurement approaches that are being used in this area of research is essential, as it is not possible to measure the changes in a construct if there is no reliable and valid way of measuring that construct. Conclusions drawn by studies in this area of research may be affected by the underlying validity and reliability of the measurement approach used. The current systematic review aims to review the studies that have used quantitative approaches to measure attitudes amongst clinical staff towards BPD, including a quality review of the measurement approaches, and a narrative synthesis of the measurement approaches, their structure and psychometric properties. This information will enable researchers to make better informed decisions regarding quantitative measurement approaches when carrying out research within this area.

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[2] The term "measurement approach" has been used to indicate that the quantitative approaches are not limited to questionnaire-style measuring instruments.

Unsurprisingly, the question of stigma does not apply to BPD alone. It is of note that a large number of measures exist and have been used in studies to measure stigmatised attitudes towards mental illness in general, with a recent review identifying over 400 measures of mental illness stigma (Fox, Earnshaw, Taverna, & Vogt, 2017). However, whilst the issues of measuring stigma are not unique to BPD, measuring stigmatised attitudes towards BPD amongst clinical staff does bring specific challenges; BPD is considered to be a particularly stigmatised disorder, with research suggesting clinical staff carry more stigmatised attitudes towards BPD than other mental illnesses. For example, Markham (2003) suggests nursing staff experience more socially rejecting attitudes towards individuals with BPD than individuals with schizophrenia[3] and view people with BPD as more dangerous than individuals with schizophrenia. Therefore measures exist which have been designed for the purpose of measuring attitudes specifically towards BPD, and thus a separate additional systematic review is relevant and necessary. Furthermore, because staff represent a group of people where stigma may have a particularly adverse impact on treatment outcomes, yet where stigma remains common (Lauber, Nordt, Falcato, & Rossler, 2004) there is a rationale for focusing the review on studies which investigate attitudes specifically in clinical staff groups.

The aims of the current systematic review are to systematically review the measures that have been used between the time period of 2008 and 2018 to investigate clinical staff attitudes towards individuals with BPD. The data will be extracted and synthesised to answer the following questions:

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[3] As previously noted in the introductory chapter of the current thesis portfolio, the term schizophrenia has been criticised (e.g. Bentall, 1990), but is replicated in the current systematic review as the term used within the cited study.

1) What are the types of studies which make use of quantitative measurement
   approaches to investigate staff attitudes towards BPD, including study design,
   population, setting and study aims?

2) What are the different types of quantitative measurement approaches that have been
   utilised?

3) What psychometric properties are reported in the studies in relation to the
   quantitative measurement approaches utilised?

4) What is the quality of the measures utilised?

It should be noted that there are different ways in which a systematic review of
measures can be carried out. For example, a small number of measures can be
reviewed in depth or all of the measures measuring a particular construct can be
systematically reviewed (see de Vet, Terwee, Mokkink, & Knol, 2011, for an account
of carrying out a systematic review of measures). As it was not known which measures
were in more prominent use prior to carrying out the systematic review, it was not
possible to select measures for an in depth review. Therefore, the current systematic
review sought to review all quantitative measurement approaches that have been used
to measure the construct of clinical staff attitudes towards BPD over a ten year period.
The rationale for searching over a ten year period is to ensure that the review only
included measures used in contemporary research.

Similarly to other systematic reviews of measures (e.g. Brohan, Slade, Clement,
& Thornicroft, 2010; Fox et al., 2017), the current systematic review did not have any
specific hypotheses, but rather took an exploratory approach.

Methods

The current systematic review was carried out using the guidance chapter on
carrying out systematic reviews of measuring instruments from de Vet et al.'s (2011) book

Measurement in Medicine. The results of the systematic review are reported in line with

guidelines provided in "The PRISMA[4] statement for reporting systematic reviews and

meta-analyses of studies that evaluate healthcare interventions: explanation and

elaboration" (Liberati et al., 2009).

The current systematic review was registered on the International Register of

Prospective Systematic Reviews (PROSPERO) (see Appendices D and E).

Eligibility Criteria

Types of studies. Studies were included if they made use of a quantitative

approach for measuring clinical staff attitudes towards BPD, were published between 2008

and 2018 and were available in the English language[5].

Types of participants. Studies were included if participants within the study were

clinical staff within a clinical setting (including both mental health and physical health),

forensic setting (e.g. prison services) or academic setting (e.g. student nurses in a

university).

Studies were excluded if they measured attitudes towards a different personality

disorder or did not specify the personality disorder as BPD. Additionally, studies were

excluded if they measured attitudes towards a specific element of BPD, for example self-

harming behaviour, and not BPD in general. Studies which specified attitudes towards

adolescents with BPD or where the age of the individual with BPD was identified as being

under 18 years old were excluded from the current systematic review. The rationale for

this is that the construct of attitudes towards adolescents with BPD is potentially different

to that of BPD in general (where age is not specified, and adulthood is likely assumed).

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[4] Preferred Reporting Items for Systematic Reviews and Meta-Analyses

[5] This was due to practicality reasons of not being able to report on findings that were written in another language. Language limits were not applied during the search, but rather at the point of full text review as it may have been possible to obtain potentially eligible non-English language studies in the English language.

Studies that did not specify an age of the individual with BPD but where it would have been reasonable to assume they meant adults were included. Studies were excluded if the participants were a mixture of clinical staff and non-clinical staff or a mixture of clinical and non-clinical settings. Unpublished studies were also excluded.

All final papers selected for inclusion were checked by the research supervisor to ensure they met the inclusion criteria.

Information Sources

In order to conduct a comprehensive search of the literature, searches were conducted on articles published between 2008 and 2018 using both Boolean phrases and Medical Subject Headings (MeSH) on Medline (EBSCO interface), PsycINFO, PsycARTICLES and Scopus.

Additionally, the primary author checked the reference list of systematic reviews and literature reviews on the topic of staff attitudes towards BPD in order to identify potentially relevant studies. The reviews checked were: Dickens, Hallett, and Lamont (2015); Ociskova et al. (2017); Sansone and Sansone (2013); Sheehan, Nieweglowski, and Corrigan (2016); and Westwood and Baker (2010).

Search

The searches, which were carried out on Medline, PsycINFO, PsycARTICLES and Scopus, utilised the following search terms: "borderline*" OR "personality disorder*" OR pd OR bpd OR eupd OR "emotionally unstable" AND nurse* OR "mental health nurse*" OR "support worker*" OR "health care assistant*" OR hca* OR psychiatrist* OR psychologist* OR "social worker*" OR "occupational therapist*" OR ot OR ots OR "probation officer*" OR multidisciplinary OR multi-disciplinary OR "multi disciplinary" OR mdt* OR staff OR team* AND attitude* OR stereotyp* OR prejudice* OR stigma*.

When searching on Medline, the following MeSH terms were used: "Borderline Personality Disorder", "Personality Disorders" NOT "Parkinson's Disease", "Nursing Staff", "Psychiatric Nursing", "Health Personnel", "Medical Staff", "Attitude of Health Personnel". Equivalent thesaurus terms (see Appendix F) were used when searching on PsycINFO and PsycARTICLES.

On Medline, PsycINFO and PsycARTICLES a full text search was carried out. On Scopus, only the abstract was searched for the first set of search terms (pertaining to Borderline Personality Disorder) with a full text search for the other search terms. The rationale for this is that Scopus is a much larger database and searching the full text would make the search too broad. A time-limit of 2008 to 2018 was placed on the search. No other limits were placed on the search. (See Appendix G for a search example.)

These databases were chosen as they are the key databases for mental health research and referenced within other reviews in the areas of measures and stigma, and stigma towards BPD (e.g. Brohan et al., 2010; Dickens et al., 2016; Fox et al., 2017).

Study Selection

In order to select studies for inclusion in the current systematic review, searches were carried out using the above search strategy. The titles and abstracts were then screened for potential inclusion by the primary author. Following this, the eligibility criteria were applied using a screening tool designed for the current systematic review (see Appendix H). The use of the screening tool was applied in a standardised, unblinded method for each study. The final studies which met the eligibility criteria for inclusion in the current systematic review were checked against the screening tool by the research supervisor.

Data Collection Process

Data was extracted from the included studies regarding both the study under review and the measure used within the study, using a data extraction tool (see Appendix I). The part of the tool which extracted data about the study was based upon the generalizability box of the COnsensus based Standards for the selection of health status Measurement INstruments[6] (COSMIN; Mokkink, 2018; Mokkink et al., 2010) with alterations to make it relevant to the aims of the current systematic review; the part of the data extraction tool which extracted data about the measure was based upon the guidance on carrying out systematic reviews of measures by de Vet et al. (2011).

The data extraction took two stages. Firstly, data was extracted regarding the study. Following this, data was extracted about each measure that had been used with the purpose of measuring clinical staff attitudes towards BPD within the study. Data regarding other measures that were used within each study to measure additional constructs was not extracted, as this data was not relevant to the current systematic review. The data extraction process was carried out by the primary author.

Data Items

The data items that were extracted from the included studies were the measures used, source of measure (if the measure was not developed in the study being reviewed), study setting (including country), study population, number of participants, gender balance, mean or median age, design of the study and aims of the study. For studies which had multiple aims, their primary aim in respect to attitudes towards BPD was extracted.

Data was then extracted regarding the measures identified. The data extracted was the type of measure (e.g. questionnaire-based), the number of items in the measure, the

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[6] A more thorough explanation of this tool is given in the "Risk of Bias in Individual Studies" section below.

subscales/ factors within the measure, the measure construction, the scoring algorithm, whether it was specifically designed for use with BPD, any adaptations that had been made for use within the study, the psychometric properties reported from previous studies regarding the measure, and the psychometric properties for the measure calculated in the study being reviewed. For non-questionnaire-based approaches a brief summary of the approach was extracted, alongside the extraction of the above information (where possible).

Risk of Bias in Individual Studies

      In order to assess the risk of bias in individual studies, the quality of the studies was assessed alongside the data extraction process. This process was carried out using the COSMIN tool (Mokkink, 2018; Mokkink et al., 2010) (see Appendices J and K). This is a quality assessment tool that has been designed for the specific purpose of assessing the quality of studies which validate health measures. Although this particular tool has been designed for studies which have explicitly sought to develop a new measure or validate a newly developed measure, it appeared to be the most appropriate tool available for assessing the quality of measures that would suit the purpose of the current systematic review. Other tools exist which are designed to assess quality, for example the SACMOT (Lohr et al., 1996 as cited in Rosenkoetter & Tate, 2017; Scientific Advisory Committee of the Medical Outcomes Trust, 2002 as cited in Rosenkoetter & Tate, 2017) and the Francis Tool (Francis, McPheeters, Noud, Penson, & Feurer, 2016). Such alternatives as these have been reviewed by Rosenkoetter and Tate (2017). As a result of this brief review, the COSMIN checklist appears to be the most appropriate tool for the purpose of the current systematic review as it provides a framework for assessing psychometric properties of measures. Furthermore, it is the only tool that was developed using Delphi consensus-

based procedures. Additionally, the COSMIN appears to be one of the most widely used tools within systematic reviews of measures (Rosenkoetter & Tate, 2017).

A subset of the COSMIN criteria were utilised within the current systematic review as these are the criteria that are regarded as most relevant to the measurement of stigma (Fox et al., 2017). The criteria utilised were: content validity, structural validity, internal consistency, reliability and criterion validity. The "Patient Reported Outcome Measures (PROM)" part of the tool was also utilised as a method of assessing the design of the measure. However, the wording of this part of the tool was altered to reflect clinical staff rather than patients.

In order to use the COSMIN in the most appropriate way for each of the quantitative approaches, each measure within each of the studies was categorised into one of four categories, with two slightly different versions of the COSMIN being applied (see Table 1). The COSMIN was not appropriate for assessing the quality of non-questionnaire-based measurement approaches. Therefore, any studies which used alternative quantitative methods to questionnaires were not quality assessed via the COSMIN.

Table 1

Application of the COSMIN to Different Study Types

Category	Type of Study	Sections of the COSMIN applied
1	Studies which developed a new measure and applied it for the first time within the study	Version 1: PROM Design Content Validity Structural Validity Internal Consistency Reliability Criterion Validity
2	Studies which adapted an existing measure or applied an existing measure to a different population	Version 2: Structural Validity Internal Consistency Reliability Criterion Validity
3	Studies which applied an existing measure with no changes being made to the measure	Version 2 (as applicable): Structural Validity Internal Consistency Reliability Criterion Validity (each criteria applied as far as possible from the information provided within the study)
4	Studies that used an approach that was not questionnaire-based	COSMIN was not applied

A number of the studies included in the current systematic review made use of multiple questionnaires for measuring clinical staff attitudes towards individuals with BPD. When this was the case, the COSMIN was applied per questionnaire per study. This means that some studies had different adapted versions of the COSMIN tool applied to different questionnaires within the study, depending upon which of the above categories the questionnaire came under. Any questionnaires that had clear separate subscales where the results had been analysed separately within the study have also been rated against the COSMIN separately, as per the "COSMIN Risk of Bias checklist" guidelines (Mokkink,

2018) with the rationale for this being that separate subscales will have separate measurement properties.

Quality assessment was not used as part of the process of decision making to exclude papers from the current systematic review. Rather, it was conducted with the purpose of understanding the quality of the measures from the information available. It should therefore be noted that the measures in categories 2 and 3 are those which have been developed and utilised in previous studies. Therefore the application of Version 2 of the COSMIN seeks to understand the quality of additional information about the measure obtained from the study under review, rather than the initial development and validation data. For these particular measures, the COSMIN has also been applied to the referenced source of the measure (cited in the reviewed study; see Appendix L for full list). The purpose of this was to provide the fullest picture possible regarding the development and validation of the measure, as it is possible that the source of the measure would provide additional information that should not be ignored. When the COSMIN has been applied to the source of the measure, this is presented within tables 6 and 7 alongside the study included in the systematic review.

The COSMIN is scored by taking the lowest score (ranging from "inadequate" to "very good") from each section (Mokkink, 2018). The primary author carried out unblinded quality assessments on all of the included studies. In order to reduce the risk of bias within the current systematic review, the research supervisor carried out quality assessments on 20% of randomly selected studies (Cohen's $\kappa=1$; Cohen, 1960).

Planned Method of Analysis

A narrative synthesis approach was utilised to analyse the data. This approach enabled a description of the current situation in the literature regarding the quantitative

approaches in use to measure clinical staff attitudes towards individuals with BPD, thus enabling the key questions to be answered within the current systematic review.

Risk of Bias Across Studies

In the context of the current systematic review, bias in the reporting of information regarding measures and their psychometric properties could result in bias in the assessment of the quality of the studies. Therefore when studies did not report Cronbach's alpha as a measure of internal consistency (Cronbach, 1951) at all (either cited from another study or calculated in the study under review), authors were contacted in an attempt to obtain this information. However, this did not result in any extra information being obtained regarding Cronbach's alphas for these particular studies.

<div align="center">

Results

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Study Selection

A total of 17 studies were identified for inclusion within the current systematic review. The searches carried out resulted in the identification of a total of 1246 studies (369 from Medline, 10 from PsycARTICLES, 332 from PsycINFO, 535 from Scopus). Adjusting for duplicates resulted in 974 studies. Titles and abstracts were screened by the primary author, resulting in the exclusion of 858 studies. A total of 116 potentially relevant studies were therefore identified. Of these 116 studies, 22 were excluded as it was not possible to access the full text (e.g. due to not being able to access the journal or the study being unpublished); 14 of the studies were excluded as they were not available in the English language. Therefore the full texts of 80 studies were reviewed, using the aforementioned study screening tool. After this, 44 studies were excluded as they did not measure clinical staff attitudes towards BPD; 18 studies were excluded due to utilising an inappropriate approach; and 1 study was excluded due to not being carried out in a setting

specified for inclusion. Finally, 17 studies (containing 22 different quantitative measures)

were identified as being eligible for the current review. Figure 1 presents the PRISMA

flow chart of study selection.

Figure 1. PRISMA Flow Chart of Study Selection

Records identified via Medline (n=369)	Records identified via PsycARTICLES (n=10)	Records identified via PsycINFO (n=332)	Records identified via Scopus (n=535)

Total records identified through database searching

(n=1246)

Additional records identified through other sources

(n=18)

Records after duplicates removed

(n=974)

Titles and abstracts screened

(n=974)

Records excluded

(n=858)

Articles eligible for full-text review

(n=116)

Excluded without full-text review, with reasons:

Unable to access journal (n=22)
Unavailable in English (n=14)

Full-text articles assessed for eligibility

(n=80)

Full-text articles excluded, with reasons:

Does not measure attitude towards BPD (n=44)
Inappropriate approach (n=18)
Setting (n=1)

Studies included in systematic review

(n=17)

Figure 1. A flow chart to represent the process of study selection within the current systematic review.

Data Extraction

Within the 17 studies eligible for inclusion, 22 quantitative measures were identified. Data was therefore extracted regarding the 17 studies and 22 measures. In regards to quality assessment, the COSMIN was applied to 25 measures. The reason this number is higher than the total number of measurement approaches identified, is that some of the same measures were used in different reviewed studies, and the COSMIN has been applied for each use. Figure 2 demonstrates the data extraction and quality assessment steps carried out, and the number of studies and measures at each step.

Figure 2. Data Extraction and Quality Assessment Stages

| Stage 1: data extraction | Papers identified for review **(n=17)** | Data extracted regarding the study, including measures used | Different measures identified for review **(n=22)** | Data extracted regarding the measure |

Stage 2: quality assessment	Measures within each paper identified for quality assessment **(n=27)**	Papers developing a new measure, applying it for the first time **(n=6)**	COSMIN version 1
		Papers adapting an existing measure **(n=9)**	COSMIN version 2
		Papers applying an existing measure with no changes **(n=10)**	COSMIN version 2 (as appropriate)
		Papers applying a quantitative approach which cannot be quality assessed by the COSMIN **(n=2)**	No COSMIN

Figure 2. A diagram demonstrating the process of data extraction for each study and measure, and the process of quality assessment.

Study Characteristics

Study design. The studies identified were between-subjects design, with profession, BPD diagnosis or location as the variable (n=8); AB repeated measures design with measures taken before and after a staff training intervention (n=6); correlation design (n=1); longitudinal design (n=1); and a cross-sectional design (n=1). Of the reviewed studies, two made use of vignettes within their design.

Study population. Eleven of the studies had a mixed clinical profession sample, and six of the studies collected data from a specific identified clinical profession.

Study settings. Studies took place in clinical settings (n=13); academic settings (n=3); and combined clinical and academic settings (n=1).

Study aims. In relation to the measurement of attitudes towards BPD, the reviewed studies aimed to measure attitudes before and after a staff training session (n=6); to measure the attitudes of clinical staff with comparisons made between professions, longitudinally or between locations (n=4); to investigate responses/ attitudes towards a patient with BPD compared to an alternative diagnosis or no diagnosis (n=4); to develop a questionnaire for measuring staff attitudes towards BPD (n=1); to measure the relationship between clinical staff attitudes towards BPD and fear of death (n=1); and to investigate the experience of clinicians working with patients with BPD (n=1).

Table 2 shows the extracted data from each study regarding the above results.

Table 2

Data Extraction Table for each Study

Study ID	Year	Authors of study	Measures	Measure ID	Referenced source of measure	Broad aims of study	Study setting (including country)	Design of study	Response rate	Study population	Number of participants and gender balance	Mean/ median age (with standard deviation)
A	2011	Black, Pfohl, Blum, McCormick, Allen, North, Phillips, Robins, Siever, Silk, Williams and Zimmerman	31-item self-report questionnaire (15 items concerning attitudes only)	1	Shanks, Pfohl, Blum and Black (2011) (Study Q)[7]	To measure the attitudes of clinical staff with comparisons made between professions	9 academic sites (United States)	Between-subjects (professions)	Reported for 6/9 sites (between 29% and 64%)	Nurses, psychiatrists, psychiatry residents, psychologists, social workers, nurse practitioners/ physician assistants	706 (total) 41.4% male 56.4% female 2.2% unknown	-
B	2011	Bodner, Cohen-Fridel and Iancu	Cognitive Attitudes and Treatment Inventory	2	Developed in study	To develop a questionnaire for measuring clinical staff attitudes towards BPD	Psychiatric institutions (Israel)	Between-subjects (professions)	-	Nurses, psychologists, psychiatrists	57 (total) 35.1% male 64.9% female	41.4 years (mean) 8.54 (standard deviation)
			Emotional Attitudes Inventory	3	Developed in study							
C	2015	Bodner, Cohen-Fridel, Mashiah, Segal, Grinchpoon, Fischel and Iancu	Cognitive Attitudes and Treatment Inventory	2	Bodner et al. (2011) (Study B)	To measure the attitudes of clinical staff with comparisons made between professions and between diagnosis (generalised anxiety disorder and major depressive disorder)	Four psychiatric hospitals (Israel)	Between-subjects (professions); between-subjects (diagnosis) vignette-based for approaches 5, 6 and 7.	Between 40.91% and 70.5%	Nurses, psychologists, psychiatrists, social workers	710 (total) 36.1% male 63.9% female	44.62 years (mean) 9.78 years (standard deviation)
			Emotional Attitudes Inventory	3	Bodner et al. (2011) (Study B)							
			Unnamed – implicit attitudes assessment using a vignette – decision to hospitalise	4	Based on the approach used by Markham and Trower (2003)							
			Unnamed – implicit attitudes assessment using a vignette – length of hospitalisation	5	Based on the approach used by Markham and Trower (2003)							
			Unnamed – traits of patient	6	Based on the approach used by Deluty (1988)							

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[7] Studies A and Q developed the measure consecutively (this was confirmed by correspondence with the author); the measure has been treated in the current systematic review as two measures due to the additional items utilised in Study A.

	Year	Authors	Measure	No.	Measure reference	Aim	Setting	Design	Response rate	Profession	Sample	Age
D	2015	Bodner, Shrira, Hermesh, Ben-Ezra and Iancu	The negative emotions scale towards BPD	7	Bodner et al. (2011) (Study B)	To measure the relationship between clinical staff attitudes towards BPD and a fear of death	Tel-Aviv Medical school (Israel)	Correlation design	60%	Psychiatrists	120 (total) 66% male 34% female	51.6 years (mean) 11 years (standard deviation)
E	2010	Bourke and Grenyer	Core Conflictual Relationship Theme Leipzig/Ulm Method (CCRT-LU)	8	Albani et al.(2002)	To investigate responses/ attitudes towards a patient with BPD compared to the diagnosis of major depressive disorder	Community health care facilities linked to a university health care service (Australia)	Between-subjects (diagnosis)	-	Therapists (doctorate and masters level clinical psychologists)	20 (total) 15% male 85% female	34 years (mean) 7.52 years (standard deviation)
F	2017	Chartonas, Kyratsous, Dracass, Lee and Bhui	22 Semantic Differentials	9	Lewis and Appleby (1988)	To investigate responses/ attitudes to a patient with BPD compared to an alternative diagnosis of depression; to assess the impact of ethnicity on attitudes towards BPD	North East London Foundation Trust and East London Foundation Trust psychiatry rotations (United Kingdom)	Between-subjects (BPD and depression; white and Bangladeshi); vignette-based	46%	Trainee Psychiatrists	76 (total) 34% male 57% female 9% unknown	-
			Attitudes towards Personality Disorder Questionnaire (APDQ)	10	Bowers and Allan (2006)							
G	2014	Clark, Fox and Long	Mental Health Locus of Origin Scale	11	Hill and Bale (1980)	To measure attitudes of clinical staff before and after a training session	Staff from a 23-bed low secure unit for patients with a primary diagnosis of BPD (United Kingdom)	AB repeated measures	77.3%	Mixed professions (nurses, psychologists, social workers, occupational therapists, education, administration)	34 (total) 6% male 94% female	31.49 years (mean) 10.45 years (standard deviation)
			The Empathic Concern Subscale (Interpersonal Reactivity Index)	12	Davis (1980)							
			The Perspective Taking Scale (Interpersonal Reactivity Index)	13	Davis (1980)							
H	2018	Day, Hunt, Cortis-Jones and Grenyer	Attitudes to Personality Disorder Questionnaire (short 10-item version)	14	Short version not referenced Full version referenced: Bowers and Allan (2006)	To measure the attitudes of clinical staff with comparisons made longitudinally	Public health service (Australia)	Longitudinal (qualitative interview also utilised)	79% (approx..)	Mental health nurses with clinical experience of working with 3 individuals with a diagnosis of BPD in the past year	66 (total) 33.3% male 66.6% female	2000 sample: 37.64 years (mean) 9.2 years (standard deviation) 2015 sample: 46.21 years (mean) 11.67 years (standard deviation)
			Attitudes and Skills Questionnaire	15	Krawitz (2004)							
I	2018	Dickens, Lamont and Stirling	Cognitive Attitudes Inventory	2	Bodner et al. (2011) (Study B)	To measure attitudes of clinical staff before and after an intervention	University setting (Scotland)	AB repeated measures (qualitative interview also utilised)	-	Students on pre-and post- registration nursing and counselling courses	66 (total) 16.7% male 83.3% female	<31 n=39 31-40 n=14 41-50 n=8 >51 n=5
			Emotional Attitudes Inventory	3	Bodner et al. (2011) (Study B)							

	Year	Authors	Measure	No.	Measure source	Aim	Setting	Design	Response rate	Professions	Sample (total) / gender	Age
J	2009	El-Adl and Hassan	Unnamed – self-report questionnaire	16	N/A	To investigate the experience of clinicians working with BPD	Inpatient and community mental health services (United Kingdom)	Cross-sectional questionnaire	69%	Mixed professions (nurses, psychiatrists, psychologists, social workers, occupational therapists)	185 (total) (gender-balance not reported)	-
K	2009	Giannouli, Perogamvros, Berk, Svigos and Vaslamatzis	23-item questionnaire	17	Cleary, Siegfried, and Walter (2002)	To measure the attitudes of clinical staff towards BPD with comparisons made between locations	Two public psychiatric hospitals and the psychiatric clinics of two public general hospitals (Athens, Greece)	Between-subjects (location)	54.3%	Nurses	69 (total) 34.4% male 69.6% female	<31 n=13 31-40 n=41 41-50 n=13 >51 n=2
L	2014	Herschell, Lindhiem, Kogan, Celedonia and Stein	Therapist Survey – (attitude towards consumers with BPD scale)	18	Developed in study	To measure attitudes of clinical staff before and after a training intervention	10 community based agencies in the (Unites States)	AB repeated measures	92%, 91%, 90%, 76% (response rate for each training session)	Nurses, psychologists, social workers, counsellors	64 (total) 22% male 78% female	44 years (mean) 13.5 years (standard deviation)
M	2015	Knaak, Szeto, Fitch, Modgill and Patten	Opening Minds Scale for Healthcare Providers (OMS-HC) - BPD specific	19	Kassam, Papish, Modgill, and Patten (2012)	To measure attitudes of clinical staff before and after a training intervention	General adult psychiatric hospital (Calgary, Canada)	Mixed-model ANOVA design	83%	Mixed professions (social workers, nurses, counsellors, occupational therapist, psychologists) from inpatient and community settings	187 (total) 15% male 85% female	39.1 years
N	2016	Keuroghlian, Palmer, Choi-Kain, Borba, Links and Gunderson	31-item self-report questionnaire (15/9 items concerning attitudes only)	20	Black, Pfohl, Blum, McCormick, Allen, North, Phillips, Robins, Siever, Silk, Williams and Zimmerman (2011); Shanks, Pfohl, Blum and Black (2011)	To measure attitudes of clinical staff before and after a training intervention	Mixed setting: outpatient, inpatient, residential treatment facilities (United States)	AB repeated measures	-	Mixed professions (nurses, psychiatrists, psychiatry residents, psychologists, social workers, counsellors, physicians, physician assistants)	279 (total) 25% male 75% female	-
O	2016	Lam, Poplavskaya, Salkovskis, Hogg and Panting	Unnamed quantitative approach (optimistic/ pessimistic)	21	Developed in study	To investigate responses/ attitudes towards a patient with BPD compared to no diagnosis	Community mental health teams, educational establishments and through workshops provided for psychiatrists and psychologists (London and South West England, United Kingdom)	Between-subjects design (the label of BPD)	-	Psychiatrists, psychologists (clinical and counselling), social workers, community psychiatric nurses, final year BSc mental health students	265 (total) 35.8% male 64.2% female	38.8 years (mean)

P	2016	Lam, Salkovskis and Hogg[8]	Clinical Assessment Questionnaire (CAQ)	22	Lam, Salkovskis and Warwick (2005)	To investigate responses/ attitudes towards a patient with BPD compared to no diagnosis	Community mental health teams, educational establishments and through workshops provided for psychiatrists and psychologists (London and South West England, United Kingdom)	Between-subjects design (the label of BPD)	-	Psychiatrists, psychologists (clinical and counselling), social workers, community psychiatric nurses, final year BSc mental health students	265 (total) 35.8% male 64.2% female (same sample as Paper O)	38.8 years (mean)
Q	2011	Shanks, Pfohl, Blum and Black	31-item questionnaire	20	See Study A	To measure attitudes of clinical staff before and after a training intervention	Training Workshops held in St Louis, Kansas City, Columbia (Missouri) and Scottsdale (Arizona) (United States)	AB repeated measures	-	Mixed professions (nurses, psychiatrists, psychologists, social workers, substance abuse counsellors, mental health counsellors, community supported living workers)	271 (total) 12% male 78% female	-

A dash (-) indicates the information was not reported.

See Appendix M for full references for the reviewed studies.

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[8] This study appears to utilise the same sample as Study O.

Types of Quantitative Measurement Approaches Utilised

A total of 22 measures were identified within the 17 studies reviewed. A number of the measures were identified as having been created specifically for measuring attitudes towards individuals with BPD or individuals with an (unspecified) personality disorder (n=15).The measures were either self-report questionnaires (n=20) or an alternative quantitative measurement approach (n=2).

The range of total number of items in the questionnaire approaches was 5-41. In regards to the structure of the measures Likert-scale approaches (with either 5, 6 or 7 points) (n=9) and semantic continuums (n=6) were used. One of the measures makes use of a 0-100 visual analogue scale. The scale structure was not reported for four of the measures.

Table 3 shows the data extracted regarding each of the questionnaire-based measures, and Table 4 shows summaries of the two alternative quantitative measurement approaches.

Psychometric properties and construct validation. In studies that have made use of a previously developed measure (either in its previously published form or an adapted version), psychometric properties have been reported for seven measures. Psychometric properties calculated within the studies being reviewed have been reported for fourteen of the measures. Four of the measures do not report any psychometric properties at all (either calculated from the current study or referenced from previous studies). Table 3 below presents the information regarding psychometric properties and construct validation.

Measure obtainability. Attempts were made to obtain all of the measures, and a table of measure obtainability has been compiled (see Table N12 in Appendix N).

Table 3

Data Extraction Table for each Measure

Measure ID	Measure/ quantitative approach	Studies used in	Number of items	Mode of Administration	Subscales/ Factors	Construction	Scoring algorithm	Specifically designed to measure attitudes towards BPD?	Alteration for use within study	Psychometric properties reported from previous studies and referenced in the study	Psychometric properties calculated from the study
1	31-item self-report questionnaire (15 items concerning attitudes only)	A	15	Self-report questionnaire	Caring Attitudes (14 items) Empathy (4 items) Treatment optimism (5 items) (Empathy and Treatment optimism scales were formed from items from Caring Attitudes Scale)	7-point Likert scale (1=strongly agree, 7= strongly disagree)	Sum total for each scale Highers scores = more positive attitudes	Yes	-	-	Cronbach's alpha not known; author no longer has access to data (correspondence with author).
2	Cognitive Attitudes and Treatment Inventory	B	41	Self-report questionnaire	Factor 1, Treatment characteristics of BPD (21 items) Factor 2, Attitudes towards BPD suicidal tendencies (13 items) Factor 3, Antagonistic judgements of BPD patients and their behaviour (7 items)	5-point Likert scale (1=strongly disagree, 5=strongly agree)	Sum total Higher scores = perception of patient being more problematic	Yes	-	-	Factor analysis completed, Cronbach's alpha reported for each of the factors (Factor 1, α=0.87; Factor 2, α=0.71; Factor 3, α=0.70)
		C	23		Factor 1, Perception of suicidal tendency (number of items not reported) Factor 2, Need for hospitalisation (number of items not reported) Factor 3, Antagonism (number of items not reported)				-	-	Confirmatory factor analysis completed, Cronbach's α reported for each of the factors (Factor 1, α=0.75; Factor 2, α=0.72; Factor 3, α=0.63)

No	Measure	Study	Items	Type	Factors/Subscales	Response scale	Scoring	Validated	Amendments		Validity/Reliability
		I	33		5 Factors revealed (1, Inpatient treatment legitimacy, 2, value of mixed approaches, 3, deserving of treatment, 4, suicidal behaviour, 5, perceived manipulation)				Language amended to make sense in UK setting		Construct validity tested by combining results with those of a related study (not clear which one) Principal components factor analysis. Cronbach's alpha calculated for each item – ranged from good to questionable
3	Emotional Attitudes Inventory	B	20	Self-report questionnaire	Factor 1, negative emotions towards BPD patients (9) Factor 2, difficulties experienced while treating BPD patients (6) Factor 3, empathy feelings towards BPD patients (5)	5-point Likert scale (1=strongly disagree, 5=strongly agree)	Sum total Higher scores=more negative emotional attitudes	Yes	-	-	Factor analysis completed, Cronbach's α reported for each of the factors (Factor 1, $\alpha=0.84$; Factor 2, $\alpha=0.75$; Factor 3, $\alpha=0.60$)
		C	18		Confirmatory factor analysis performed, giving same factors but numbers not reported				-	-	Confirmatory factor analysis completed; Cronbach's alpha reported for each of the factors (Factor 1, $\alpha=0.86$; Factor 2, $\alpha=0.67$; Factor 3, $\alpha=0.64$)
		I			12-item single factor solution				Language amended to make sense in UK setting	-	Principal components analysis revealed single factor solution. Cronbach's alpha reported ($\alpha=0.94$)
4	Unnamed – implicit attitudes assessment using a vignette – decision to hospitalise	C	5 items	Self-report questionnaire	No subscales	7-point differential semantic continuum	Sum total Higher scores =more negative attitudes toward the decision to hospitalise	Yes	-	-	Cronbach's alpha calculated in study ($\alpha=0.89$)

5	Unnamed – implicit attitudes assessment using a vignette – length of hospitalisation	C	5 items	Self-report questionnaire	No subscales	7-point differential semantic continuum	Sum total Higher scores =more negative attitudes toward the length of hospitalisation	Yes	-	-	Cronbach's alpha calculated in study (α=0.86)
6	Unnamed – traits of patient using a vignette	C	13	Self-report questionnaire	No subscales	7-point differential semantic continuum	Sum total Higher scores=more negative attitudes	Yes	-	-	-
7	The negative emotions scale towards BPD	D	9	Self-report questionnaire	-	5-point Likert scale (1=strongly disagree, 5=strongly agree)	Higher scores=more negative emotional attitudes	Yes	-	Cronbach's alpha reported (α = 0.856) (Bodner, et al. 2011)	-
9	22 Semantic Differentials	F	22	Self-report questionnaire	3 factors	6 point dichotomous scale	Sum total Higher scores = more rejecting attitudes	For use with personality disorder	-	Correspondence with authors of cited study (Lewis & Appleby, 1988) stated Cronbach's alpha not calculated	Principal components analysis, revealing 3 factors
10	Attitudes towards Personality Disorder Questionnaire	F	35	Self-report questionnaire	5 subscales (enjoyment, security, acceptance, purpose, enthusiasm)	6-point Likert scale	Sum total of each subscale Lower scores=more negative attitudes	For use with personality disorder	-	Factor analysis and reporting of good internal consistency in validation paper (Bowers and Allan, 2006)	
11	Mental Health Locus of Origin	G	20	Self-report questionnaire	None reported in paper	6-point Likert scale (strongly agree to strongly disagree)	-	No	Subject pronouns altered to align with BPD and the hospital setting	Reported to have been validated in previous studies, but scores not reported	Cronbach's alpha not known; author no longer has access to data (correspondence with author)

12	The empathic concern subscale (Interpersonal Reactivity Index)	G	7	Self-report questionnaire	-	5-point rating scale (does not describe me very well – describes me very well)	-	No	Nouns were changed to make the scales more appropriate for an inpatient setting	Empathic Concern subscale: test-retest reliability males = 0.72 and females =0.70 (Davis, 1980); Both subscales reported to have robust reliability and validity	-
13	The Perspective Taking Scale (Interpersonal Reactivity Index)	G	7	Self-report questionnaire	-	5-point rating scale (does not describe me very well – describes me very well)	-	No	Nouns were changed to make the scales more appropriate for an inpatient setting	Perspective Taking subscale: test-retest reliability males =0.61 and females =0.62 (Davis, 1980)	-
14	Attitudes to Personality Disorder Questionnaire (APDQ) (short 10-item version)	H	10	Self-report questionnaire	-	-	-	For use with personality disorder	-	Cronbach's alpha reported for full scale (α=0.88) (Bowers & Allan, 2006)	Cronbach's alpha (α =0.75) (not totally clear whether this is from current study, due to referencing)
15	Attitudes and Skills Questionnaire	H	6	Self-report questionnaire	-	-	-	Higher scores= more positive attitudes	Yes	-		Cronbach's alpha (α= 0.82 – not clear which study this is from – not referenced to a previous study
16	Unnamed – self-report questionnaire	J	-	Self-report questionnaire	-	-	-	-	-	-	-
17	23-item Questionnaire	K	23	Self-report questionnaire	Yes, but exact construction remains unclear	-	-	Yes	Translated and adapted to the Greek population	-	-
18	Therapist Survey (attitude towards consumers with BPD subscale)	L	6	Self-report questionnaire	-	5-point Likert scale	-	Yes	-	-	Cronbach's alpha reported (α =0.68)

19	Opening Minds Scale for Healthcare Providers (OMS-HC) -BPD-specific	M	15	Self-report questionnaire	3 subscales (negative attitudes, willingness to disclose/ seek help, preference for social distance)	5-point Likert scale	Sum total score	Yes	Adapted for use with BPD	-	Pre-test Cronbach's alpha (α=0.79) Post-test Cronbach's alpha (α=0.80)
20	9-item survey (from 31-item questionnaire) (Black et al., 2011)	N, Q	9	Self-report questionnaire	-	7-point Likert scale (1=strongly agree, 7= strongly disagree)	Sum total for each scale Highers scores = more positive attitudes	Yes	-	-	Cronbach's alpha not known; author no longer has access to data (correspondence with author) (Study Q)
22	Clinical Assessment Questionnaire (CAQ)	P	23	Self-report questionnaire	21 items categorised into 6 groups for analysis (does not report how these were determined or what they were)	0-100 visual analogue scales	Sum total. Higher scores = more positive attitudes	No	Adapted for use with BPD	Reported to have good psychometric properties, including test-retest (r=0.94-0.89) (Lam, Salkovskis & Warwick, 2005)	Test-retest reliability was examined using 12 clinicians

A dash (-) indicates the information was not reported.

Table 4

Data Extraction Table for Non-Questionnaire-Based Measures

Measure Identifier	Other quantitative approach	Reviewed studies used in	Mode of administration	Brief description	Scoring	Psychometric properties reported from previous studies and referenced in the study	Psychometric properties calculated from the study
6	Core conflictual relationship theme Leipzig/Ulm method (CCRT-LU) (Albani et al., 2002)	E	Semi-structured interviews	An approach to analyse semi-structured interviews, which looks at different themes within cognitive and emotional responses to the patient with BPD. Relationship episodes are identified and these are coded into core components, these then undergo conversion to standardised categories from the approach.	The frequency of each category were summed.	High and mid-level categories have had fair to good interrater agreement (weighted Cohen's κ=0.66-0.56) (Albani et al., 2002)	-
21	Unnamed quantitative approach (optimistic/ pessimistic)	O	Self-report	Participants were required to write down reasons for being pessimistic and optimistic about the patient's treatment. A coding system was developed for the study and this was used to analyse the participants' responses. From this categories were generated. Responses were coded as either pessimistic or optimistic.	The total of number of pessimistic and optimistic responses were summed.	-	Inter-rater reliability using Cohen's κ coefficient (considered high for each of the categories)

A dash (-) indicates the information was not reported.

Quality Assessment

The quality assessment process took place using the COSMIN tool. Tables 5, 6 and 7 show the quality assessment for each of the questionnaire measures within each of the studies reviewed (n=25[9]).

Across all papers and across the majority of the sections of the COSMIN tool, the quality of each measure was considered "doubtful" or "inadequate". This was the case for both studies that sought to make use of an existing measure, and studies which utilised measures that were developed for use within the study. Of greater concern is those measures which were developed in the reviewed studies, and the implications of this are explored further in the discussion section of the current systematic review. The exception to this is within the criteria of structural validity and internal consistency which was rated as "very good" for the Cognitive Attitudes and Treatment Inventory and Emotional Attitudes Inventory in Study C[10] which sought to make use of these measures. Additionally, the study which sought to develop and validate the same measures[11] scored "very good" on internal consistency. The Therapist Survey which was developed for use within the study reviewed[12] also scored "very good" on internal consistency.

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[9] This number excludes the two measurement approaches that could not be quality assessed using the COSMIN.
[10] Bodner et al.(2015) (Study C)
[11] Bodner et al. (2011) (Study B)
[12] Herschell, Lindhiem, Kogan, Celedonia, & Stein (2014) (Study L)

Table 5

Quality Assessment: Studies Applying a Newly Developed Measure

Study ID	Measure ID	Measure	PROM Design	Content Validity	Structural Validity	Internal Consistency	Reliability	Criterion Validity
A	1	31-item self-report questionnaire (15 items concerning attitudes only)	Doubtful	Doubtful	Inadequate	Inadequate	Inadequate	Inadequate
B	2	Cognitive Attitudes and Treatment Inventory	Inadequate	Doubtful	Inadequate	Very good	Inadequate	Inadequate
B	3	Emotional Attitudes Inventory	Inadequate	Doubtful	Inadequate	Very good	Inadequate	Inadequate
J	16	Unnamed – Self-report questionnaire	Inadequate	Inadequate	Inadequate	Inadequate	Inadequate	Inadequate
L	18	Therapist survey (attitude towards consumers with BPD scale)	Inadequate	Inadequate	Inadequate	Very good	Inadequate	Inadequate
Q	20	31-item questionnaire	Inadequate	Inadequate	Inadequate	Inadequate	Inadequate	Inadequate

Table 6

Quality Assessment: Studies Applying an Adapted Measure

Study ID	Measure ID	Measure	PROM Design	Content Validity	Structural Validity	Internal Consistency	Reliability	Criterion Validity
C	4	Unnamed – Implicit attitudes assessment using a vignette (subscale 1) (Markham & Trower, 2003)	N/A	N/A	N/A due to uni-dimensionality	Very good	Inadequate	Inadequate
		Original Study	Inadequate	Inadequate	Inadequate	Inadequate	Inadequate	Inadequate
C	5	Unnamed – Implicit attitudes assessment using a vignette (subscale 2) (Markham & Trower, 2003)	N/A	N/A	N/A due to uni-dimensionality	Very good	Inadequate	Inadequate
		Original Study	Inadequate	Inadequate	Inadequate	Inadequate	Inadequate	Inadequate
C	6	Unnamed – Traits of a patient (Deluty, 1988)	N/A	N/A	N/A due to uni-dimensionality	N/A	Inadequate	Inadequate
		Original Study	Inadequate	Inadequate	Very good	Inadequate	Inadequate	Inadequate
G	11	Mental Health Locus of Origin Scale (Hill & Bale, 1980)	N/A	N/A	Inadequate	Inadequate	Inadequate	Inadequate
		Original Study	Inadequate	Inadequate	Inadequate	Doubtful	Inadequate	Inadequate
G	12	Perspective Taking Subscale - Interpersonal Reactivity Index (Davis, 1980)	N/A	N/A	N/A due to uni-dimensionality	Inadequate	Inadequate	Inadequate
		Original Study	Inadequate	Doubtful	Very good	Very good	Adequate	Inadequate
G	13	Empathic concern subscale - Perspective Taking Subscale - Interpersonal Reactivity Index (Davis, 1980)	N/A	N/A	N/A due to uni-dimensionality	Inadequate	Inadequate	Inadequate
		Original Study	Inadequate	Doubtful	Very good	Very good	Adequate	Inadequate
K	17	23-item questionnaire (Cleary et al., 2002)	N/A	N/A	N/A due to uni-dimensionality	Inadequate	Inadequate	Inadequate
		Original Study	Inadequate	Inadequate	Inadequate	Inadequate	Inadequate	Inadequate

M	19	Opening Minds Scale for Healthcare Providers (OMS-HC) 'BPD specific', result for each of the three subscales (SS) (Modgill, Patten, Knaak, Kassam, & Szeto, Andrew, 2014)	N/A (SS1) N/A (SS2) N/A (SS3)	N/A (SS1) N/A (SS2) N/A (SS3)	N/A due to uni-dimensionality N/A due to uni-dimensionality N/A due to uni-dimensionality	Inadequate (SS1) Inadequate (SS2) Inadequate (SS3)	Inadequate (SS1) Inadequate (SS2) Inadequate (SS3)	Inadequate (SS1) Inadequate (SS2) Inadequate (SS3)
		Original Study (all three subscales)	Inadequate	Doubtful	Adequate	Very good	Doubtful	Inadequate
P	22	Clinical Assessment Questionnaire (Lam et al., 2005)	N/A	N/A	Inadequate	Inadequate	Inadequate	Inadequate
		Original Study (known as 'General Attitude Questionnaire')	Inadequate	Inadequate	Inadequate	Very good	Doubtful	Inadequate

Table 7

Quality Assessment of Studies Applying an Existing Measure with no Changes Made

Study ID	Measure ID	Measure Used	PROM Design	Content Validity	Structural Validity	Internal Consistency	Reliability	Criterion Validity
C	2	Cognitive Attitudes and Treatment Inventory (Bodner et al., 2011; Study B)	N/A	N/A	Very good	Very good	Inadequate	Inadequate
C	3	Emotional Attitudes Inventory (Bodner et al., 2011; Study B)	N/A	N/A	Very good	Very good	Inadequate	Inadequate
D	7	The negative emotions scale towards BPD (Bodner et al., 2011)	N/A	N/A	N/A due to uni-dimsionality	Inadequate	Inadequate	Inadequate
F	9	22 Semantic Differentials (Lewis & Appleby, 1988)	N/A	N/A	Inadequate	Inadequate	Inadequate	Inadequate
		Original Study	Inadequate	Inadequate	Inadequate	Inadequate	Inadequate	Very good
F	10	Attitudes towards Personality Disorder Questionnaire (Bowers & Allan, 2006)	N/A	N/A	Inadequate	Inadequate	Inadequate	Inadequate
		Original study	Doubtful	Doubtful	Very good	Inadequate	Doubtful	Inadequate
H	14	Attitudes towards Personality Disorder (short 10-item version) (no reference given)	N/A	N/A	N/A due to unknown dimensionality	Inadequate	Inadequate	Inadequate
H	15	Attitudes and Skills Questionnaire (Krawitz, 2004)	N/A	N/A	N/A due to unknown dimensionality	Inadequate	Inadequate	Inadequate
		Original study	Inadequate	Inadequate	Inadequate	Inadequate	Inadequate	Inadequate
I	2	Cognitive Attitudes and Treatment Inventory (Bodner et al., 2011; Study B)	N/A	N/A	Inadequate	Doubtful	Inadequate	Inadequate
I	3	Emotional Attitudes Inventory (Bodner et al., 2011; Study B)	N/A	N/A	Inadequate	Doubtful	Inadequate	Inadequate
N	20	31-item self-report questionnaire (Shanks et al., 2011; Study Q)	N/A	N/A	N/A due to unknown dimensionality	Inadequate	Inadequate	Inadequate

Discussion

Summary of Evidence

The current systematic review sought to review the quantitative approaches that have been utilised in the last ten years to measure clinical staff attitudes towards individuals with BPD. In addition to understanding the construction and psychometric properties of the measures the current systematic review also sought to understand the context of the studies within which they had been used and assess the quality of the measures based upon the quality of their development and validation within the studies reviewed.

The results of the review suggest that self-report questionnaire measures are the main type of quantitative approach used to investigate clinical staff attitudes towards BPD. However, questionnaire approaches are not used exclusively. Additionally, a number of the measures identified were designed for use within the study being reviewed, and the results of the current systematic review suggest gaps in the quality of measures in respect to how they have been designed and validated, along with the psychometric properties reported. The impact of these results and the strength of the evidence are discussed further in the following paragraphs. Limitations of the current systematic review and recommendations for future research are also discussed below.

A number of different measures were identified which claim to measure the construct of clinical staff attitudes towards BPD (n=22). However, this large amount of measures itself suggests a lack of agreement regarding the construct being measured. Interestingly one of the studies reviewed developed a measure with the rationale that no suitable measures currently exist (Herschell, Lindhiem, Kogan, Celedonia, & Stein, 2014). Within the 22 measures identified, the current systematic review identified five studies

which appeared to develop a novel measure. Despite this, only one of these studies named the development of the measure as an aim within the study, and provided information regarding validation and psychometric properties. This was Study B (Bodner et al., 2011). This particular study, therefore, appears to come the closest to following the protocol for developing and validating measures, suggested by de Vet et al. (2011). Items for this measure were constructed following "brainstorming sessions" (Bodner et al., 2011, p. 549) and reviews of the literature in order to create items relating to both cognitive attitudes and emotional attitudes towards BPD (a distinction other measures do not explicitly make). The evidence regarding the claim that newly developed measures generally do not follow a protocol for development and validation is considered to be strong, given the result of the COSMIN checklist (specifically the PROM section) (Mokkink, 2018; Mokkink et al., 2010) which supports this conclusion. The general lack of following measure development protocol is concerning; measure development is intended to be a lengthy process where a concept to be measured is defined, with support from empirical evidence (Carifio & Perla, 2009), potential items are formulated (via qualitative methods such as focus groups), and items are pilot-tested and field-tested (de Vet et al., 2011). Furthermore, a process of construct validation is required for latent variables such as attitudes and beliefs (Flake, Pek, & Hehman, 2017). As clinical staff attitudes towards individuals with BPD is a latent concept, construct validation is required for measures seeking to measure this construct.

    In regards to the process of construct validation, a number of the measures in the current review make use of factor analysis to either investigate or confirm the underlying structure of the measure, providing important information about the structure of the measure and the relationship between items. Those measures which have not done this are failing to report potentially relevant information about the measure and the items within the measure. The general lack of measure validation has been highlighted and criticised

previously (Flake et al., 2017; Fox et al., 2017). When measures are designed without

following a proper protocol and have not gone through a robust construct validation

process, this can bring into question the results of the study and any subsequent claims

made. Furthermore, subsequent researchers may make use of these poorly designed

measures and they could come into wider use within the research, without having gone

through a rigorous design and validation process. Researchers could assume that the

publication of a study means that the measure is valid and reliable for further use. In

regards to the strength of this particular finding, it is important to note that there could be a

reporting bias present in regards to the information that was available regarding the

development of the measure. For example, Study A (Black et al., 2011) suggests specific

subscales, but with no reporting of any factor analysis carried out. This means that the

quality of structural validity was "inadequate". This could be a correct assessment

resulting from the lack of construct validation. Alternatively, it could be that a reporter

bias is resulting in the structural validity of the measure being quality assessed as poorer

than it actually is, if factor analysis was carried out but not reported.

In addition to the lack of construct validation, despite large samples in some studies

(Black et al., 2011; Giannouli, Perogamvros, Berk, Svigos, & Vaslamatzis, 2009; Shanks,

Pfohl, Blum, & Black, 2011), many of the studies did not report internal consistency

scores. In order to reduce reporter bias, attempts were made to obtain Cronbach's alphas

(Cronbach, 1951) in studies that did not report this figure (either calculated in the study or

cited from a previous study making use of the same measure), as this information may

have impacted upon the COSMIN scores for internal consistency. However, this yielded

no extra information, due both to authors not replying or replying to state that they no

longer had access to the data. Making contact with the authors strengthens the claim that

there is a lack of calculating and reporting of Cronbach's alpha and therefore the quality

assessment in the internal consistency section of the COSMIN (Mokkink, 2018; Mokkink et al., 2010) can be considered good evidence for this claim regarding the lack of internal consistency reporting.

Limitations

The current systematic review resulted in a number of questions regarding the conducting of systematic reviews in the area of measures. Guidance that exists regarding systematically reviewing measures is focused on studies which aim to develop and validate measures (e.g. de Vet et al., 2011). However, there is no specific guidance on the area of reviewing measures using a systematic review approach, when the majority of measures are currently not validated, but when there is still a rationale for carrying out the systematic review. This means that the current systematic review and other similar reviews which seek to review measures may not be using an approach that is as objective as possible. However, the current approach utilised could be a useful example for future systematic reviews which review measures in studies that do not explicitly design and validate the measures.

A specific example of the current approach not being as objective as possible is in respect to the application of the COSMIN tool (Mokkink, 2018; Mokkink et al., 2010) to quality assess the measures and the studies. Although this tool has been used in other systematic reviews which review measures of stigma (e.g. Fox et al., 2017) it has proved to be difficult to apply to the current study, for two main reasons. Firstly, the current study did not seek to review only papers which had the aim of developing and validating the measure. Therefore application of the COSMIN to studies which used pre-existing measures did not work very well as many of the questions became not applicable. Secondly, many of the studies which did develop measures did not clearly report how these were developed, meaning that they achieved low scores on the COSMIN. As these studies

did not have the main purpose of developing the measure, they may not have reported

potentially relevant information in regards to the development of the measure. It might

have been possible to apply an alternative quality assessment tool to studies which did not

develop measures. However, there does not appear to be one in existence which would

have suited the purpose of the current systematic review.

Furthermore, the current systematic review only sought to review studies published

in the last ten years. The rationale for this was to focus on measures used in contemporary

research. However, this means that the studies for measures which have been developed

and validated prior to 2008 have not been included in the review. However, it should be

noted that the current systematic review sought to quality assess the original referenced

paper for previously developed measures, in order to check whether the measure had some

pre-established reliability. This may be helpful to future researchers who are hoping to use

the information from the current systematic review in regards to selecting appropriate

measures.

Conclusions and Recommendations

In summary, the current systematic review has reviewed and quality assessed the

measures made use of in the last ten years within the literature for measuring clinical staff

attitudes towards BPD.

The current systematic review has highlighted the need for measures that aim to

measure staff attitudes towards individuals with BPD to be developed and validated in a

more rigorous manner, following measure development guidelines, for example those

presented by de Vet et al. (2011). This should help to create a measure which is known to

be fit for purpose and can be used across studies. Once this is done future research is

likely to be more robust and will enable the comparison of results across studies (where the

same measure has been used). A further recommendation is in regards to the reporting of measure use. Researchers should seek to accurately report their use of measures and any adaptations to that measure to avoid confusion.

Finally, the current systematic review supports the idea proposed by Flake et al. (2017) that ongoing validation in subsequent uses of measures (both generally and in measures used to measure clinical staff attitudes towards individuals with BPD) would take steps towards improving the quality of measures. This would involve processes such as calculating and reporting the Cronbach's alpha for new samples.

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Chapter Three: Bridging Chapter

The systematic review within the current thesis portfolio identified a number of different measures that have been developed or adapted within the last ten years for measuring the attitudes of clinical staff towards individuals with Borderline Personality Disorder (BPD). The large number of different measures may suggest a possible disagreement amongst researchers regarding how to measure this particular construct, perhaps reflecting the multi-faceted nature of the underlying issue of stigma. Additionally, a number of the measures that have been utilised within research in the last ten years appear to not have been through a rigorous development and validation process, with important stages such as establishing basic construct validity being omitted.

Despite these results, however, there is still a need for research to progress within the area of clinical staff attitudes towards individuals with BPD with the aim of discovering possible methods in which stigmatised attitudes can be reduced. This requires researchers to choose a measure. However, this may become a pragmatic choice of which is the least imperfect one. It is therefore pertinent to query how research in this area can progress when the current situation regarding measures for this construct remains so questionable.

The empirical study in the current thesis portfolio uses a vignette-based design to investigate whether clinical staff demonstrate less stigmatised attitudes towards an individual with BPD when there is the presence of a psychological formulation in addition to the diagnosis of BPD and brief background information. The rationale for this and relevant theory is explored further in the empirical study. The measures were chosen because they had been used in previous similar studies, and so enabled comparison with these studies. However, the quality of these measures, as per the result of the systematic

review, is noted. The approach taken to choosing an appropriate measure is included in the

methods section of the empirical study (p. 81). Additionally, further reflections on the

choice of measures and the process of the research carried out within the current thesis

portfolio are included in the Extended Discussion and Critical Review chapter at the end of

the current thesis portfolio.

The Empirical Study

The empirical study is based upon two key studies which investigate staff attitudes

towards individuals with personality disorders. Although these papers are clearly

referenced within the empirical study, the brief summary provided in the empirical study

itself requires expansion to provide context to the wider thesis portfolio. The first study is

by Lewis and Appleby (1988), which sought to investigate whether "personality disorder"

is a "pejorative term" (Lewis & Appleby, 1988, p. 44) amongst participants (173

psychiatrists), and whether individuals with the diagnosis are considered to be more in

control of their actions than individuals who do not have a diagnosis of a personality

disorder. This was done by using the 22 Semantic Differentials measure which was

developed by the authors. This measure was utilised in one of the studies which was

reviewed within the systematic review component of the current thesis portfolio. The

study it was reviewed in was that of Chartonas, Kyratsous, Dracass, Lee, and Bhui (2017).

The quality of validation information supplemented by Chartonas and colleagues to the

original study was considered "inadequate" (p. 50). It should not be ignored however that

they did carry out a factor analysis on the items. The inadequate result was due to the

sample size used for this particular analysis. The cited source (Lewis & Appleby, 1988)

was then located as part of the systematic review, and information regarding construct

validation and psychometric properties is presented in Table L11 in Appendix L. This

information suggests that the 22 Semantic Differentials measure did not go through a

satisfactory development and validation process. Notwithstanding this important

limitation, the results of Lewis and Appleby's study suggest that participants hold more

rejecting attitudes towards individuals with a diagnosis of a personality disorder than

individuals without a diagnosis of a personality disorder or with an alternative diagnosis of

depression.

Lewis and Appleby's (1988) research has been widely cited (456 citations noted on

Google Scholar) but, to the primary author's knowledge, only replicated (and extended) by

the aforementioned Chartonas et al. (2017) in the second key paper informing the present

empirical study. Like Lewis and Appleby (1988), Chartonas and colleagues used a sample

of psychiatrists (76 trainee psychiatrists), but focused on the more specific diagnosis of

BPD. Furthermore, as well as using the 22 Semantic Differentials measure from Lewis

and Appleby's (1988) study, Chartonas et al. (2017) included the more contemporary

Attitudes towards Personality Disorder Questionnaire (APDQ; Bowers & Allan, 2006).

The APDQ has been through a validation process (Bowers & Allan, 2006). However, due

to the year this was published, the validation paper was not included in the systematic

review.

Chartonas et al.'s (2017) study sought to investigate a possible difference in

attitudes between a diagnosis of BPD and a diagnosis of depression[13], and also made use of

a vignette-based design. Consistent with the findings of Lewis and Appleby's (1988)

study, the 22 Semantic Differentials measure within this study demonstrated that more

negative attitudes were present in the group where the individual had a diagnosis of BPD.

Furthermore, the total of the APDQ measure demonstrated slightly more negative attitudes

towards individuals with the diagnosis of BPD. However, this result was only approaching

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[13]This study also sought to investigate whether there was a difference in attitude between individuals with
BPD who were white and individuals with BPD who were Bangladeshi. No significant differences were
found in the main analysis of this component of the study.

significance. Additionally, there was a significant difference on factor 4 of the APDQ

(purpose) but not the other factors of the APDQ. This is an example of one of the

difficulties of multiple measures claiming to be measuring clinical staff attitudes towards

individuals with BPD, whereby two measures exist with different results obtained. The

difference in results, although minor, reflects the previous concern within the systematic

review that the existence of different measures points towards the idea that there is

disagreement regarding the construct being measured and the best way of doing this.

The empirical study within the current thesis portfolio is based upon the two

aforementioned studies. However, rather than seeking to investigate whether there is a

difference in attitude between the diagnosis of BPD and an alternative diagnosis (such as

depression), the empirical study seeks to understand whether it is possible to alter attitudes

with the presence of a psychological formulation. This assumes that the induction of a

stigmatised attitude by the diagnosis of BPD is an established finding. In addition to the

above two studies, this finding is also supported by both Lam, Salkovskis, and Hogg

(2016) and Markham, (2003) amongst others. More specific rationale for the usage of a

psychological formulation as a method of altering stigmatised attitudes is provided in the

empirical study.

There are two further differences between the present study and the studies of

Lewis and Appleby (1988) and Chartonas et al. (2017). Both of these are elaborated on in

the empirical study itself. Firstly, in addition to the measures used by Lewis and Appleby

(1988) and Chartonas et al. (2017), the empirical study also makes use of the Causal

Attribution Scale (Heider, 1958, as cited in Markham & Trower, 2003). As mentioned in

the introductory chapter of the thesis portfolio, the investigation of causal attributions,

based upon attribution theory (Weiner, 1985) aligns with the study of attitudes. Therefore,

in addition to the measures made use of by Chartonas et al. (2017), the empirical study has

also utilised the Causal Attribution Scale (Heider, 1958, as cited in Markham & Trower, 2003).

Secondly, the empirical study expands to include all clinical staff professions rather than just psychiatrists. The rationale for this is that the literature of mixed samples suggests that clinical staff in general have more stigmatised attitudes towards individuals with BPD (Cleary, Siegfried, & Walter, 2002; Lam et al., 2016) and so one can reasonably expect the findings of Lewis and Appleby (1988) and Chartonas et al. (2017) to extend to other professional groups. Furthermore, the way in which formulation has been used within the empirical study has not been used before in any similar studies. It is therefore logical and practical to start the investigations into whether psychological formulation can alter attitudes towards BPD with mixed professions, before making any further decisions to narrow down to specific professions; if the results of the empirical study pointed to a rationale for this.

Chapter Four: Empirical Study

Staff attitudes towards individuals with a diagnosis of Borderline Personality Disorder: can formulation reverse the stigma?

A vignette-based design

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Abstract

Objectives. Clinical staff who work in mental health settings frequently experience stigmatising attitudes towards individuals with the diagnosis of Borderline Personality Disorder (BPD). The purpose of the current study was to investigate the impact of psychological formulation on attitudes towards an individual with the diagnosis of BPD.

Design. The current study had a vignette-based, between-subjects design, which utilised an online survey approach.

Methods. Clinical staff (N=141) from two large mental health trusts in East Anglia took part in the study. They were randomly assigned to either the Formulation or Non-formulation group. Both groups read a short extract about the same fictitious patient with a diagnosis of BPD and the patient's presenting difficulties. The Formulation group also read a psychological formulation regarding the patient's presenting difficulties. Attitudes and how participants made causal attributions were compared between the two groups.

Results. The results of the study suggest that the addition of a psychological formulation did not alter participants' attitudes towards the individual within the vignette. However, there was a difference in how participants make causal attributions along the construct of stability regarding the cause of the individual's behaviour.

Conclusions. The lack of difference between the two groups is discussed within the study, with possible reasons being that the current sample has less stigmatised attitudes than previous samples or because the way in which psychological formulation has been used in the current study may not have been enough to alter staff attitudes.

Keywords: Borderline Personality Disorder, BPD, staff attitudes, causal attributions

Introduction

As previously discussed in the introductory chapter of the current thesis portfolio,

Borderline Personality Disorder[14] (BPD) is a psychiatric diagnosis defined in both major

diagnostic systems (American Psychiatric Association, 2013, *DSM-5*; BPD; World Health

Organization, 2018, *ICD-10*, Emotionally Unstable Personality Disorder). Its validity and

reliability as a diagnosis has been questioned (Castillo, 2000; Horn, Johnstone, & Brooke,

2007; Miller, 1994). However, the term BPD is frequently used within mental health

services and research, with individuals with the diagnosis being understood as

experiencing a long-term pervasive pattern of emotional instability, unstable mood,

unstable interpersonal relationships and fears of abandonment (Crawford, 2008; National

Health Service, 2016).

There is evidence to suggest that stigmatised attitudes towards individuals with

mental health difficulties exist both amongst the general public and amongst the

individuals themselves (see Ahmedani, 2011, for a general overview of stigma amongst

mental health professionals). Stigmatised attitudes can lead to rejecting and discriminative

behaviour towards the individual or group of individuals (Link & Phelan, 2001). In

addition to the general issue of stigma towards mental health difficulties, there is evidence

to suggest that stigmatised attitudes towards individuals with a specific diagnosis of BPD

exist amongst clinical staff who work with such individuals in mental healthcare services

(Aviram, Brodsky, & Stanley, 2006; King, 2014; Knaak, Szeto, Fitch, Modgill, & Patten,

2015), including a recent systematic review on BPD and stigma amongst healthcare

professionals (Ociskova et al., 2017).

Lewis and Appleby (1988) investigated the attitudes of psychiatrists towards

patients with and without a diagnosis of a personality disorder, using a vignette-based

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[14] Also known as emotionally unstable personality disorder (EUPD).

design. The individual described in the vignette appears to have traits pertaining to BPD.

However, the authors did not explicitly state in the vignettes which personality disorder the

individual had. The results of their study suggested more negative and rejecting attitudes

towards individuals with a diagnosis of a personality disorder than individuals with

depression, and that such individuals were considered by participants as not mentally

unwell.

This study was repeated more recently with trainee psychiatrists, using the specific

term "Borderline Personality Disorder" (Chartonas, Kyratsous, Dracass, Lee, & Bhui,

2017). Echoing the findings of Lewis and Appleby, Chartonas and colleagues concluded

that stigmatised attitudes exist towards the label of BPD when a comparison is made to the

label of depression, as measured by the 22 Semantic Differentials measure from Lewis and

Appleby's (1988) study. In Chartonas et al. (2017), a difference was also found in the total

of the Attitudes towards Personality Disorder Questionnaire (APDQ; Bowers & Allan,

2006) at a rate that was approaching significance, and factor 4 of the APDQ.

Stigmatised attitudes towards individuals with a diagnosis of BPD have been noted

in other clinical professions also, for example in nurses (Fraser & Gallop, 1993;

Woollaston & Hixenbaugh, 2008). Additionally, stigmatised attitudes are present in

samples of mixed professions. For example, more stigmatised attitudes were demonstrated

in a mixed sample of clinical psychologists, counselling psychologists, social workers,

community psychiatric nurses and mental health students (Lam, Salkovskis, & Hogg,

2016).

Stigmatised attitudes towards individuals with BPD may in part come from a

perception that individuals with BPD are in control of the behaviours that they engage in

(Markham & Trower, 2003). The idea of being in control of one's behaviour is

underpinned by the aforementioned attribution theory, which "is based upon the premise

that people determine causes for events in order to experience a sense of control over their

environment" (Markham & Trower, 2003; p. 245). Markham and Trower (2003)

investigated causal attributions made for challenging behaviours in individuals with a

diagnosis of BPD compared with schizophrenia[15] or depression in a sample of nurses.

They suggested that participants rated the cause of the behaviour as being more stable

across similar situations in individuals with BPD, and that individuals with BPD are

perceived as being more in control of both their behaviour and the cause for their

behaviour. Being in control of ones behaviour aligns with Lewis and Appleby's (1988)

study which suggested that individuals with a diagnosis of a personality disorder are not

necessarily viewed as being mentally unwell, but are viewed as being in control of their

behaviour. It was suggested by Lewis and Appleby that this is likely to be contributing to

the stigma associated with the individual's diagnosis of a personality disorder.

As previously mentioned Jones et al. (1984 as cited in Ahmedani, 2011)

conceptualised origin in their model of stigma. However, in addition to the

conceptualisation of origin, they also suggest the importance of controllability; whereby

stigmatised attitudes are more likely to exist if it is thought that the individual is not

mentally unwell and is in control of their behaviour. This aligns with the above results of

Markham and Trower's (2003) study.

Stigmatised attitudes towards individuals with a diagnosis of BPD are suggested to

be therapeutically damaging towards such individuals (see Aviram et al., 2006), resulting

in a conflict with the values-driven approach to healthcare that the National Health Service

(NHS) strives for where respect and equality are core components (Department of Health,

2015). Therefore it is important to investigate whether anything can be done to alter the

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[15] As previously noted in the introductory chapter and systematic review of the current thesis portfolio, the term schizophrenia has been criticised (e.g. Bentall, 1990), but is replicated here due to the term used within the cited study.

attitudes of clinical staff towards BPD. Whilst the aforementioned studies identify the presence of stigma, they do not investigate possible ways in which stigmatised attitudes can be altered.

Altering Stigmatised Attitudes Amongst Staff Towards BPD

A small number of studies have explored approaches to develop more positive attitudes towards individuals with a diagnosis of BPD in clinical staff. For example, Davies, Sampson, Beesley, Smith, and Baldwin (2014) suggested that the more knowledge a person has about personality disorders and the difficulties that individuals with a personality disorder face, the less negative their attitudes are likely to be. Their study evaluates Knowledge and Understanding Framework training[16] for staff within mental health teams, with the results suggesting an increase in knowledge about personality disorders results in increased positive emotional reactions towards such individuals, both immediately after the training and at a three month follow-up. Furthermore, Shanks, Pfohl, Blum, and Black (2011) suggested a workshop on personality disorders resulted in greater empathy and less dislike towards such individuals. Studies such as these which make use of education programmes as a way of reducing stigmatised attitudes are consistent with some previous research that suggests stigmatised attitudes will decrease as a result of gaining greater knowledge (Gustafsson & Borglin, 2013). A reason for this could be due to memory processing, whereby if information about the target is not retained or recalled then stereotypes are more likely to be formed (Dijksterhuis, Aarts, Bargh, & Van Knippenberg, 2000) and therefore relied upon for information. Individuals with BPD and other mental health difficulties are likely to experience stereotyping, and this could be playing a role in maintaining stigmatised attitudes.

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[16] A training previously recommended by the Department of Health (Department of Health, 2009).

However, it should be noted that there is some contradicting evidence regarding the

effects of increasing knowledge on stigmatised attitudes, with Pen, Gunan, Daily, Spalding

and Sullivan (1994, as cited in Martin, Lang, & Olafsdottir, 2008) suggesting that

providing further knowledge on the symptoms of schizophrenia increased negative

attitudes. However, it should be noted that this was not a study based on a workshop or

education programme. Additionally, a systematic review suggests that increasing the

understanding of the biological aspects of mental illness does not reduce stigmatised

attitudes (Schomerus et al., 2012). Furthermore, attitude change in interventions of

education do not tend to be measured implicitly, and so participants in the aforementioned

training programmes could have been biased towards attitude change. Therefore, it may be

possible to suggest that rather than increased knowledge being responsible for attitude

change, demand characteristics[17] were present. Alternatively, as (Shanks et al., 2011)

suggest, participants chose to attend the workshop which indicates a willingness to

increase their knowledge on BPD. Therefore these results may not generalise to clinical

staff who have not chosen to increase their knowledge on BPD. Furthermore, studies

investigating the impact of a training intervention on staff attitudes tend to use smaller

samples and are of lower quality, so it is not possible to generalise findings.

Psychological Formulation and the Current Study

Psychological formulations aim to generate an understanding of an individual's

specific mental health difficulties and the maintenance of such difficulties (Kinderman,

2005; Tarrier, 2006). Formulations can improve an individual's understanding of their

difficulties (Ryle, 1990) and lessen emotional distress (Horowitz, 1997). Additionally,

Berry, Barrowclough, and Wearden's (2009) study suggested that more positive feelings

towards individuals can be created following the attendance of a formulation consultation

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[17] Demand characteristics occur when participants are aware of what the study is asking of them, and may
behave in ways which fulfil this (Orne, 1962).

meeting regarding specific service users. Formulations usually include a narrative of the individual's difficulties (British Psychological Society, 2011), including factors which are likely to predispose the individual to their difficulties, factors which precipitate (trigger) the individual's difficulties, factors which perpetuate (maintain) the individual's difficulties and factors which protect (are helpful to) the individual. The British Psychological Society (2011) cite formulation as being useful for helping the individual and their care team work collaboratively and "increasing team understanding, empathy and reflectiveness" (British Psychological Society, 2011; p. 9). The use of formulation fits in with a broader trend in recommendations for services to move away from an exclusively diagnostic model of understanding complex mental health presentations, including that of personality disorders (Allen, 2004; Berthoud, Kramer, de Roten, Despland, & Caspar, 2013). Furthermore, the formulation approach is recommended by Horn et al. (2007) who suggest that information about the individual could be better conveyed by a formulation approach rather than a diagnostic approach.

A small amount of studies which specifically look at the impact of case formulations suggest the usage of formulations amongst staff can increase empathy towards individuals. One example of this comes from Whitton, Small, Lyon, Barker, and Akiboh (2016), which suggests that empathy towards service users with intellectual disabilities and psychological understanding of the service user were increased following the process of constructing a formulation for the patient via team consultation. A small number of service evaluations have been conducted on the use of formulation as a means of altering attitudes towards individuals with a personality disorder. However, the majority of these have taken place within a forensic setting (and with the general term "personality disorder" rather than BPD). For example, Ramsden, Lowton, and Joyes (2014) completed a small scale study on the use of formulation focused case consultation with staff working

with offenders with personality disorders. This study indicated a positive change in attitudes towards personality disorders. Similarly, Knauer, Walker, and Roberts (2017) carried out a study with 60 members of staff working with offenders. This particular study found that following formulation consultation meetings staff members' attitudes towards individuals with a personality disorder were more positive. It is possible therefore that a formulation approach may act as a means to reducing stigmatised attitudes towards BPD.

From a theoretical perspective, as previously mentioned in the introductory chapter of the current thesis portfolio, Jones et al. (1984 as cited in Ahmedani, 2011) proposed a model of stigma which includes the concept of origin, suggesting that understanding the origin of a person's mental illness can reduce stigmatised attitudes. The idea that a formulation approach may alter clinical staff attitudes is based upon the component of origin within this model; whereby understanding developmental information about why someone is behaving as they are may impact upon how their behaviour is perceived and thus the attitude a member of clinical staff may have towards that person.

The Current Study

As an extension of Lewis and Appleby (1988) and Chartonas et al.'s (2017) studies, the current study uses psychological formulation as an independent variable. The diagnosis of BPD is given in the first line of the vignette in order to elicit a stigmatised attitude. The current study then has the aim of investigating whether the presence of a psychological formulation is able to reduce the stigmatised attitude and the causal attributions made in regards to the behaviour of the individual with BPD. It does this by measuring and comparing clinical staff attitudes towards the individual with a diagnosis of BPD in the vignette, and the causal attributions made about the same individual, between the two groups (one group where a psychological formulation is present (Formulation group), and the other group where it is not (Non-formulation group)).

The current study hypothesises that there will be a difference between the two groups in regards to attitude, with those in the Formulation group demonstrating less stigmatised attitudes than those in the Non-formulation group. This is based upon the aforementioned theoretical model which includes origin and controllability (Jones et al.,1984 as cited in Ahmedani, 2011) , with the proposition being that the developmental information will provide context in regards to the origin and controllability of the person with BPD's behaviours and difficulties, and this may elicit a less stigmatised attitude.

Furthermore, the current study hypothesises that there will be a difference between the two groups on the specific causal attribution dimension of controllability. This is based upon both the findings of Markham and Trower's (2003) aforementioned study and Jones et al.'s (1984 as cited in Ahmedani, 2011) controllability construct of stigma. It is thought that the additional psychological contextual information is likely to impact upon how causal attributions are made, with participants who receive the formulation being more likely to see the cause of the patient's behaviour as being outside of the patient's control than participants who do not receive the psychological formulation.

Methods

Participants

Participants were clinical staff members working in secondary mental healthcare services within either Cambridgeshire and Peterborough NHS Foundation Trust (CPFT) or Norfolk and Suffolk NHS Foundation Trust (NSFT). They were recruited directly from both community services and inpatient services. Any member of staff who worked in a clinical role was eligible to take part. There was no minimum requirement for the length of time the participant had been working in a clinical role, and there was no minimum qualification requirement.

In total, 141 participants took part in the study out of a possible 2945 (approximate number) eligible staff that had the opportunity to take part. This is a 5% response rate.

Sampling Procedure

The study was carried out via an online survey approach, with eligible staff being able to access the online survey via a link from electronic study advertisement material. Efforts were made to ensure that the study advertisement reached all clinical staff members within CPFT and NSFT. Within NSFT the study was advertised in NSFT Communications (a newsletter emailed to all staff). Additionally, as some services within NSFT and CPFT had larger numbers of staff working in them who were eligible to take part, these teams were approached and a contact (service manager or clinical psychologist) within the team emailed the advertisement and link to the online survey out to members of staff within the service. The contact from each service then emailed the advertisement out to clinical staff intermittently over a period of approximately five months. Additionally the primary author attended ten team meetings in order to explain the study and answer any questions. Recruitment took place between May and November, 2018. (See Appendix Q for a full breakdown of the teams approached.)

Ethical Considerations

Ethical approval was gained for the current study from the University of East Anglia Faculty of Medicine and Health Sciences ethics approval process. Additionally, the study was approved by the Health Research Authority. (See Appendices R, S, T and U for documents relating to ethical approval.)

In order to thank participants for their participation they were given the option to take part in a prize draw to win one of five £25 vouchers.

The extended methods chapter within the current thesis portfolio considers further ethical considerations for the current empirical study.

Sample Size, Power and Precision

Prior to data collection, a power analysis (using G*Power) indicated that the minimum number of participants required for this study was 126. This would enable the carrying out of two-tailed t-tests with a medium effect size of 0.5 and a power of 0.8 (Cohen, 1969). The obtained sample of 141 was therefore sufficient to carry out the required analyses with adequate power.

Measures

22 Sematic Differentials (Lewis & Appleby, 1988) (see Appendix V). This 22 item scale is measured along a 6-point bipolar scale. It is considered to be a measure of attitude towards personality disorders, asking participants to rate their response to a fictitious individual presented in the vignette. The scores are summed to give an overall measure of attitude, with higher scores indicating a more rejecting attitude. The rationale for choosing this measure is that it has been used in the two key previous studies (Chartonas et al., 2017; Lewis & Appleby, 1988) which have a similar design to the current study. A factor analysis revealed three factors (Chartonas et al., 2017). However, two of the factors (each with three items) did not demonstrate clear conceptual distinctions. Therefore, only the items from factor 1 will be analysed within the current study. A small number of the items (five) were not considered suitable for the current study, as they were written exclusively for participants who are psychiatrists. These were therefore removed

from the current study[18] (with permission being sought from the authors; see Appendix W).

Cronbach's alpha (Cronbach, 1951) has not previously been calculated for this measure.

Attitudes towards Personality Disorder Questionnaire (APDQ; Bowers & Allan, 2006) (see Appendix X). The APDQ is a 35 item questionnaire, which measures attitudes towards personality disorders. Each item is rated on a 6-point Likert scale. The items are comprised of different feelings and reactions towards individuals with a personality disorder. This measure was also used in Chartonas et al.'s (2017) follow-up study to Lewis and Appleby's (1988) study. This measure has good test-retest validity amongst nurses, and high internal consistency ($\alpha = 0.94$) (Bowers & Allan, 2006). Bowers and Allan carried out a principal components factor analysis, identifying five factors: enjoyment/ loathing, security/ vulnerability, acceptance/ rejection, purpose/ futility, and enthusiasm/ exhaustion. In the current study, minor alterations were made to the wording of the items to make direct reference to the individual within the vignette (with permission from the author of the APDQ; see Appendix Y). Higher scores indicate more positive attitudes. The rationale for utilising the APDQ is that validation of psychometric properties has taken place (Bowers & Allan, 2006), and this measure was also used in Chartonas et al.'s (2017) study.

Causal Attribution Scale (Heider, 1959, as cited in Markham & Trower, 2003) (see Appendix Z). The Causal Attribution Scale (Heider, 1958, as cited in Markham & Trower, 2003) was used to measure how participants explain (make causal attributions for) the behaviour of the individual within the vignette. The Causal Attribution Scale consists of four attribution dimensions: internality, stability, globality, controllability (comprised of control of the cause and control of the event). The way it was used was based upon

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[18] Due to the removal of five items from the 22 Semantic Differentials this measure will henceforth be known as the Semantic Differentials, to avoid confusion regarding the number of items.

Markham and Trower's (2003) adaptation of Dagnan, Trower and Smith's (1998, as cited in Markham & Trower, 2003) modified version of the Attribution Style Questionnaire (Peterson, et al., 1982, as cited in Markham & Trower, 2003). A series of behaviours about the individual in the vignette was presented to the participant. The participant specified a cause for the behaviour, and rated the cause along 7-point bipolar scales for each of the dimensions. The behaviours presented are based upon those used within Markham and Trower's (2003) study. All scores were reversed to bring the scoring system in line with Markham and Trower's (2003) study. The scores for each dimension across situations was then summed to give an overall score for that dimension. Higher scores indicated that the cause is thought to be internal to the patient (internality); the same things would happen in a similar occurring event (stability); the cause would influence how the patient behaves in other events (globaility), the patient is in control of the cause (control of the cause) and the patient is in control of the event (control of the event). Russell, McAuley and Tarico (1987) report the internal consistency of the subscales of stability (α=0.85) and controllability (α=0.51). Markham and Trower (2003) did not report Cronbach's alpha scores within their study.

Research Design

The current study has a quantitative, between-subjects, vignette-based design, with two groups: Formulation and Non-Formulation. Both groups read the same background narrative about a fictitious patient, including the diagnosis of BPD in the first line. The purpose of the diagnosis is to activate a stigmatised attitude towards the patient within the vignette. However, the Formulation group had an additional psychological formulation of the patient, taking the form of a 5P structure (see Dudley & Kuyken, 2014, for an overview of the 5P approach). The vignettes were developed by the primary author and reviewed by a panel of clinical psychologists working within personality disorder services, to ensure

that the narrative presented in the vignettes was clinically realistic (see Appendix AA for

the vignettes). Further information regarding the development of the vignettes is presented

in the extended methods section of the thesis portfolio.

Procedure

Participants were randomly assigned to either group (Formulation or Non-

formulation) by the online software (Qualtrics). Participants read the extract about the

fictitious patient before completing the measures. The extract was displayed at the bottom

of each online page for the participants' reference.

The demographics collected following completion of the measures were job title,

number of years' experience working in mental health, whether the participant worked in a

specialist personality disorder service, and whether the participant considered themselves

to have received specialist training in personality disorders.

The median completion time was 19 minutes and 61 seconds.

Participants were informed via the advertising posters and emails they received that

the study was relating to clinical staff attitudes towards individuals with complex problems

in order to prevent bias within the results. The debrief screen at the end of the surveys

informed participants that the study was about attitudes towards BPD. Additionally, the

debrief screen asked participants, once they had taken part, to not discuss the purpose of

the study with other eligible participants.

Data Analysis

The primary analysis sought to compare the means of the Formulation group and

Non-formulation group for factor 1 of the Semantic Differentials measure, the total of the

APDQ, each of the five factors of the APDQ and each dimension of the Causal Attribution

Scale. In addition to this, sensitivity analyses were carried out in order to test the robustness of the findings; whether the results would change when subgroups of participants were removed from the sample.

Results

A total of 141 participants took part in this study (67 participants in the Formulation group and 74 participants in the Non-formulation group). A further 89 participants started to complete the survey but did not finish. The data for these participants has not been analysed.

Participants were comprised of 40 nursing staff, 36 support practitioners, 30 psychology staff, 6 medical staff, 6 therapists, 10 social workers, 3 occupational therapists, 4 clinical team leaders, 4 case managers, and 1 practice education facilitator (see Appendix BB for a full breakdown of participant professions).

Participants had between <1 and 35 years experiences. The mean amount of years of experience that participants had was 10.55 years. Out of 141 participants, 10 participants (7%) reported working in specialist personality disorder services, and 57 participants (40%) identified themselves as having received specialist personality disorder training.

T-tests were utilised in order to compare the means of each group for each measure (see "Chapter Six: Extended Results" for a discussion regarding the assumptions of t-tests; see Kim, 2015, for an overview of t-tests). Prior to completing the primary analysis, t-tests were calculated to compare the current sample to the samples from the previous studies on which the current study is based (Chartonas et al., 2017; Markham & Trower, 2003) and the validation study for the APDQ (Bowers & Allan, 2006). In regards to the Semantic Differentials there was a significant difference for seven out of the seventeen items, with

participants in the current study demonstrating less rejecting attitudes (see Table CC15 in Appendix CC).

For the APDQ the sample from the current study was compared with four samples from Bowers and Allan's (2006) validation study. There are significant differences on at least three of the factors in comparisons with each of the four samples, with participants in the current study broadly displaying less rejecting attitudes than the previous samples (see Tables DD16, EE17, FF18 and GG19 in Appendices DD, EE, FF, GG).

The results of the causal attribution dimensions were compared with the sample obtained by Markham and Trower (2003). There were significant differences on the dimension of controllability (both cause and event), with higher scores obtained in Markham and Trower's (2003) study. This suggests that participants in the current study view the cause of the individual's behaviour and the cause of the event as being less within the individual's control than participants in the previous sample (see Table HH20 in Appendix HH).

Primary Analysis

There was no significant difference between factor 1 of the Semantic Differentials, the total of the APDQ and each of the five factors of the APDQ.

In regards to the causal attributions, there was a significant difference between the two groups on the stability dimension, with participants in the Formulation group scoring higher than participants in the Non-formulation group, indicating that those in the Formulation group attribute the cause of the individual's behaviour to be one that is more stable across similar situations than participants in the Non-formulation group. In regards to the other causal attribution dimensions there was no difference between the two groups.

Cohen's *d* has been calculated for each of the variables, and a small effect size is demonstrated for the APDQ total, factor 1 and factor 4 of the APDQ, and the causal attribution dimensions of internality, globality and controllability (event).

The results of the primary analysis are presented in Table 8.

Table 8

Comparisons (t-tests) Between the Formulation and Non-formulation Group Carried out for each Measure

	Formulation (n=67)		Non-Formulation (n=74)		Mean Difference	Standard Error Difference	t-test	Confidence Intervals (95%)	Effect Size Cohen's d	Cronbach's alpha (α)
	Mean	Standard Deviation	Mean	Standard Deviation						
Semantic Differentials Factor1	32.67	5.12	33.77	6.46	1.10	0.99	$t(139)=1.11, p=0.268$	-0.86, 3.05	-0.00	0.66
APDQ Total	154.96	19.33	148.96	23.03	-5.10	3.60	$t(139)=-1.67, p=0.098$	-13.12, 1.13	0.28	0.95
APDQ Factor 1	59.67	12.44	55.73	11.95	-3.94	2.06	$t(139)=-1.92, p=0.057$	-8.01, 0.12	0.32	0.93
APDQ Factor 2	47.25	5.80	46.61	7.56	-0.65	1.14	$t(139)=-0.57, p=0.573$	-2.91, 1.62	0.10	0.88
APDQ Factor 3	26.37	2.60	25.81	3.17	-0.56	0.49	$t(139)=-1.14, p=0.255$	-1.53, 0.41	0.10	0.75
APDQ Factor 4	14.18	2.12	13.59	2.92	-0.59	0.43	$t(133)=-1.35, p=0.173$	-1.43, 0.26	0.23	0.83
APDQ Factor 5	7.48	1.80	7.22	1.77	-0.26	0.30	$t(139)=-0.87, p=0.386$	-0.86, 0.33	0.15	0.77
Causal Attribution Internality	26.57	4.91	25.00	5.32	-1.57	0.87	$t(139)=-1.81, p=0.072$	-3.28, 0.14	0.31	0.81
Causal Attribution Stability*	26.52	4.46	24.57	4.99	-1.96	0.80	$t(139)=-2.44, p=0.016$	-3.54, -0.37	0.41	0.82
Causal Attribution Globality	27.09	4.67	25.45	5.16	-1.64	0.83	$t(139)=-1.98, p=0.050$	-3.29, 0.00	0.33	0.85
Causal Attribution Controllability (Cause)	21.72	6.75	21.27	5.84	-0.45	1.06	$t(139)=-0.42, p=0.674$	-2.54, 1.65	0.07	0.84
Causal Attribution Controllability (Event)	20.24	5.61	21.92	6.21	1.68	1.00	$t(139)=1.68, p=0.095$	-0.30, 3.66	-0.30	0.82

*Significant difference demonstrated with *p* values adjusted using the Holm correction method (Holm, 1979).

Sensitivity Analyses

As a method of testing the robustness of the findings within the current study, sensitivity analyses were carried out. Sensitivity analyses enables a consideration of how confident the current study can be in the results it has obtained by varying assumptions and subcategories (Thabane et al., 2013).

A series of t-tests were carried out between each of the measures considering the categories of non-specialist personality disorder services, profession and non-specialist training (see Tables II21, JJ22 and KK23 in Appendices II, JJ and KK). In regards to the removal of participants working in specialist personality disorder services, results indicated a significant difference on the causal attribution dimension of stability in the t-test, thus supporting the results of the primary analysis. Similarly, the removal of clinical psychologists and trainee clinical psychologists from the sample indicated the same result within the t-test.

However, the removal of participants who had received specialist personality disorder training resulted in no difference between the two groups on any of the measures when t-tests were carried out. Therefore, sensitivity analyses broadly support the results of the primary analysis.

Summary of Results

In summary there was no significant difference between the Formulation and Non-formulation groups on factor 1 of the Semantic Differentials, the total and each of the five factors of the APDQ and the causal attribution dimensions of internality, globality and controllability). However, there was a significant difference between the two groups on the causal attribution dimension of stability, with participants in the Formulation group rating the cause of the patient's behaviour as more likely to occur in similar situations.

This result is broadly supported by the sensitivity analyses. Furthermore, a Cohen's *d*

calculation demonstrated small effect sizes on six additional variables. However, the

current sample is varied in its similarities to other previous samples, with significant

differences on at least some of the variables. This means that the results need to be

considered within the context of the current sample and may not be generalizable.

Discussion

The aim of this study was to investigate whether there would be a difference in the

attitudes of clinical staff towards individuals with a diagnosis of BPD and the way staff

make causal attributions regarding the behaviour of an individual with BPD, when

participants are given a psychological formulation in addition to the diagnosis of BPD and

brief background information. The results of this study reveal no significant difference

between the Formulation and Non-formulation groups on most of the outcome measures

including both factor 1 of the Sematic Differentials (Lewis & Appleby, 1988), the total and

each of the five factors of the APDQ (Bowers & Allan, 2006), and three of the four

dimensions on the Causal Attribution Scale (Heider, 1958, as cited in Markham & Trower,

2003). Overall, this appears to indicate that the presence of a formulation does not alter

staff attitudes towards an individual with a diagnosis of BPD or the way in which staff

make causal attributions about the behaviour of an individual with BPD.

However, there were some limited exceptions to this broad picture. Firstly, there

was one significant result within the Causal Attribution Scale on the dimension of stability.

This means that participants in the Formulation group perceived the cause of the patient's

behaviour to be more stable across similar events than the participants in the Non-

formulation group. The dimension of stability ties in with the theory of dispositional

inference, initially proposed by Jones and Davis (1965 as cited in Malle, 2011), which

seeks to identify the conditions under which someone will identify personality traits as

stable across situations. Following on from this, Shoda and Mischel (1993) suggest individuals perceive others' behaviour via a lay person's social cognitive theory of personality (Mischel, 1973 as cited in Shoda & Mischel, 1993) resulting in inferences being made about how a person will behave in similar contexts. It could therefore be that the developmental information within the formulation increases contextualisation resulting in the perception that the behaviour will be stable across similar situations.

A more extreme and negative interpretation of this could be that the provision of a psychological formulation which includes developmental information has resulted in people perceiving the patient to be less capable of change in similar occurring events. It could be that the behaviour is seen as being rooted within the individual's developmental history. Those who did not receive the formulation saw the cause of the individual's behaviour as less stable across similar occurring events. The viewpoint of not having the information in the formulation could be considered to be more detached from development, and therefore possibly more medicalised. This may enable people to see an individual's difficulties as more 'fixable' and therefore not necessarily that the patterns of behaviour will occur across similarly occurring events. A further point to note, however, is that the difference between the two groups is small (-1.96), and the results of both groups are considered to be towards the higher end of the stability dimension. Therefore, there is an element of viewing the cause of the behaviour as stable across events in both groups. A further note is that the current sample is comparable to Markham and Trower's (2003) previous sample. Interestingly, one of the diagnostic criterion of BPD is that the impairments in functioning are relatively stable across situations (American Psychiatric Association, 2013). It may be possible that participants – working in mental health – are aware of this, and this is why in general the cause of the behaviour is viewed more towards the stable end of the scale in both groups.

Overall, the sensitivity analyses support the main findings from the primary analysis. However, there was one small difference;   the removal of participants who identified themselves as having received specialist training in personality disorders resulted in no differences between the two groups on any of the measures. The occurrence of this slight difference indicates that the findings may not be generalizable and further research is needed in regards to subgroups of participants.

It should not be ignored that a small effect size is present in six additional variables (the APDQ total, Factor 1 and factor 4 of the APDQ, and the causal attribution dimensions of internality, globality and controllability (event)). These did not reach conventional levels of significance based on the tests conducted. Larger sample sizes may be required to detect a significant effect in these variables. However, these observations do suggest that an intervention of a narrative formulation read about a patient is unlikely to yield a medium or large effect, and it is likely that an intervention of this nature would have, at best, an impact associated with a smaller effect size. Despite these individual findings, the overall picture of the results indicates that the addition of a psychological formulation did little to change stigmatised attitudes towards BPD. This was not in line with hypothesised predictions, and further consideration of why this might be the case is therefore warranted. The following paragraphs will consider in turn a number of potential explanations for the findings. However, it is of note that the lack of difference in the Semantic Differentials and APDQ makes sense in the context of their being a lack of difference on the controllability (cause) dimension of the causal attributions. As previously noted, if the cause of an individual's behaviour is perceived as something controllable by the individual, a negative attitude towards that individual is more likely to be expressed (Lewis & Appleby, 1988).

Comparison to Previous Samples

One of the possible reasons for a lack of difference between groups may relate to the underlying characteristics of the sample. If the current sample has low base rates of stigma, demonstrating a reduction of stigma may be complicated. Comparisons were made with data obtained in other studies (Bowers & Allan, 2006; Chartonas et al., 2017; Markham & Trower, 2003). These comparisons were indicative of some significant differences in attitude, with the current sample displaying less stigmatised attitudes. Additionally, the current sample appears to perceive the individual as being less in control of their behaviour. It is unclear exactly what has caused this difference. However, the picture of less stigmatised attitudes may account for a lack of attitude alteration as a result of the presence of the psychological formulation. Following on from this, a certain amount of stigma is inevitable; Martin et al. (2008) notes that there may be a limit to the reduction of stigmatised attitudes, as people are always likely to differentiate between themselves and others who are different to them. As the current sample already carries less stigmatised attitudes to previous samples and it was not possible to reduce stigmatised attitudes further, it may be that this indicates that a baseline has been reached. However, investigation would be needed to provide further evidence that this is the case.

Difficulties in Changing Attitudes

A further possible reason for the lack of overall difference between the Formulation and Non-formulation groups is the complexity of stigma as a concept and the challenges this complexity will create in attempts to alter people's attitudes. Martin et al. (2008) highlight the complexity of stigma and propose the Framework Integrating Normative Influences on Stigma (FINIS). This involves viewing the cause of stigmatised attitudes as occurring from an interaction between both an individual's beliefs and experiences and the wider organisation and societal context. The results of this are an infinite number of

possible causes of a stigmatised attitude for each individual person. The discussion of their proposed framework highlights the complexity of stigmatised attitudes, and they suggest that their framework helps to understand why attempts (such as the current study) have not been enough to alter stigmatised attitudes, when there is such a large number of complex configurations as to the cause of a stigmatised attitude for an individual. Further work may therefore be needed to gain greater understanding of this complicated process within the specific area of clinical staff attitudes towards individuals with a diagnosis of BPD.

Interestingly, Bowers et al. (2006) suggests that attitudes are changeable as a result of the psychosocial environment in which staff are working. Their longitudinal study suggested attitudes worsening in response to prisoner related events and organisational factors. This further demonstrates the complexity of the study of attitudes and other external factors that may influence the reporting of attitudes within questionnaires.

Approach taken to Formulation

A further possible reason why the current sample does not demonstrate a difference in attitude between the two groups could be related to the way in which formulation was used in the current study. A small amount of literature suggests that a change in attitude can occur as a result of formulation as identified in the introduction section of the current study (Knauer et al., 2017; Ramsden et al., 2014; Whitton et al., 2016). These papers tended to make use of formulations for existing patients or via team formulation consultation sessions. The current study approaches formulations differently. This reflects the fact that the clinical practice around formulations is varied with there being an agreed overall recognition of its importance (British Psychological Society, 2011) but no consensus of how they should be utilised. The formulation approach taken in the current study was to present a carefully constructed written formulation with the aim of representing an individual with behaviours participants might see within their workplace.

It might be possible to suggest that the process of engaging in the construction of a formulation is significant in some way in altering attitudes. The British Psychological Society cites formulation as a collaborative sense-making process (British Psychological Society, 2011). Team formulation consultation sessions align better with this. However, further research would be needed regarding the impact of different formulation processes on clinical staff attitudes towards BPD.

Formulation as not Effective in Altering the Attitudes of Clinical Staff

It may also be possible that formulation has little impact on clinical staff attitudes towards BPD because formulation as a process is simply not an effective approach to altering attitudes. Regardless of whether any of the aforementioned factors are possible explanations of the results of the current study, it is noteworthy that the current finding are counter to the intuitive clinical sense and the wider acknowledged practice value of formulation (British Psychological Society, 2011). This does not devalue formulation as an approach, but suggests that their power to change attitudes may be more limited than initially hypothesised.

It is therefore noteworthy that a small amount of research has found that formulation has not impacted upon clinical staff attitudes towards personality disorders. A study by Brown, Beeley, Patel, and Völlm (2016), with the primary aim of teaching case formulation skills to offender managers, did not result in a reduction of negative attitudes despite there being an improvement in participants' ability to formulate cases.

Limitations and Evaluation of the Current Study

The first limitation is in respect to the measures used. The measures were chosen due to their use in other similar studies (Chartonas et al., 2017; Lewis & Appleby, 1988; Markham & Trower, 2003). However, only the APDQ has received comprehensive

validation (Bowers & Allan, 2006). The systematic review within the current thesis

portfolio highlights the general usage of poor quality measures for the construct of

attitudes towards individuals with BPD. However, the current empirical study has

demonstrated high internal consistency for all of the measures used. This is therefore

useful for the recommendation of ongoing measure validation (Flake, Pek, & Hehman,

2017).

A further limitation is that there was a high drop-out rate mid-completion of the

survey (38.7%). It is not known the reasons for participants dropping out. It is also not

therefore known what the responses of these participants would have been, and to what

extent they would have impacted upon the study.

Conclusion and Future Directions

Although on the surface this study appears not to provide evidence that the

provision of a psychological formulation will have an impact upon stigmatised attitudes

towards individuals with a diagnosis of BPD, there still remains some unanswered

questions regarding formulations and whether using them in an alternative way could

impact upon stigmatised attitudes towards BPD. It is therefore possible to suggest that

there would be reasons to continue exploring the concept of formulation as a possible

means of reducing stigmatised attitudes, taking into consideration the fact that simply

providing a written 5P formulation of an individual's difficulties may not be enough. The

following recommendations for future work have therefore been made:

- Carry out further research regarding the specific causal attribution of stability, and
  the clinical impact of viewing patient's behaviour as stable across situations,
  potentially, with investigations between professional groups;

- Repeat the study with subgroups of participants, for example different professional groups or different service types;

- Repeat the study but making use of a formulation in a different way which enables more meaningful processing of the information within the formulation.

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Chapter Five: Extended Methods

Formulations

The vignettes and the formulation were written by the primary author of the thesis portfolio. The background information was based upon the vignettes in studies by Chartonas, Kyratsous, Dracass, Lee, and Bhui (2017) and Lewis and Appleby (1988). They aimed to present a person displaying typical behavioural traits associated with the diagnosis of Borderline Personality Disorder (BPD). The background information and the formulation were reviewed by a panel of clinical psychologists working in specialist personality disorder services. The panel of clinical psychologists were aware of the purpose and design of the study.

A decision was made to write the diagnosis within the vignettes as "Borderline Personality Disorder (also known as Emotionally Unstable Personality Disorder)". The rationale for this is that both terms are used (depending upon the diagnostic system), and the usage of one term, and therefore not using the other term, could be distracting for the participant.

Formulation can take a number of different approaches (Johnstone & Dallos, 2014). Therefore a decision was required in regards to what approach would be utilised within the empirical study. It was decided that a 5P approach would be used. A 5P approach comprises information about someone under the headings of presenting difficulty, predisposing factors, precipitating factors, perpetuating factors and protective factors (Dudley & Kuyken, 2014). The background narrative about the patient was considered to be the presenting difficulty. This was given to both groups. The formulation was then organised under the headings of predisposing factors, precipitating factors and perpetuating

factors. A decision was made not to include protective factors to prevent the possibility of making the behaviour of the individual in the vignette appear less pathological.

The 5P approach was chosen because it allowed for clear presentation of information about the patient's difficulties, their origins, triggers and what was maintaining them in a narrative format. Other types of formulation that require presenting information in a model format, for example a Cognitive Behavioural Therapy maintenance cycle of thoughts, feelings and behaviours, (see Dudley & Kuyken, 2014) would have been less appropriate for the empirical study as they require extra explanation, and it would not have been possible to have done this via the method of the online survey. Therefore, it seemed logical to make the decision based upon which type of formulation would be most practical to make use of within the context of the current research. Additionally, existing research in formulation case consultation utilised a 5P structure (Ramsden, Lowton, & Joyes, 2014).

Further Ethical Considerations

Eligible participants were not individually approached. They were recruited via study advertisements which they received via email or on a printed poster. All eligible participants had the opportunity to ask questions (face-to-face, or via telephone or email) prior to deciding whether they would like to take part. An information sheet was available for participants, which contained information about the study, and the contact details of the primary author.

No consent form was utilised, as this is not considered necessary for questionnaire-based studies (NHS Health Research Authority, 2017). However, participants were informed of their right to withdraw at any point during taking part and up until the data was analysed. In order to fulfil this right but maintain anonymity, participants were asked to provide a unique identifying word or number following completion of the questionnaires. If a participant then wanted to withdraw their data at a later point they

would have needed to provide this unique word or number in order to identify their data, which could then be removed. No participant requested the withdrawal of their data at a later point. Participants who withdrew midway through completion of the questionnaires were considered to have withdrawn from the study. Therefore their data was not analysed.

The only personal information that was collected was participants' name and email address should they wish to have been entered into the prize draw or should they wish to have received a summary of the results of the study. Participants did not have to provide this information if they did not want to be entered into the draw or receive a summary of the results. The data was stored in line with the Data Protection Act, 1998 (Government Legislation, 1998).

Furthermore, in order to protect the anonymity of participants, the entry of their name and email address was completed on a separate online form to their questionnaire responses. This was downloaded and stored separately to the questionnaire data.

Chapter Six: Extended Results

T-test Assumptions

In order to carry out independent t-tests, data must meet a number of assumptions. The following paragraphs discuss how the data meets t-test assumptions.

Two independent groups. The data must be categorised into two groups that are independent from each other. This assumption is met, with the two independent groups being Formulation and Non-formulation.

Continuous data. The APDQ data is Likert data. There is debate around whether this type of data should be treated as continuous or ordinal data, with it being suggested that as the intervals between each point are not necessarily equal then this data should be treated as ordinal data with non-parametric tests being carried out (Jamieson, 2004).

However, Carifio and Perla (2008) suggest that there is robustness in parametric tests used with Likert scales when they are analysed as a summed score. Additionally a paper by Norman (2010) unpicks this debate, concluding that parametric tests can reliably be used on Likert scales. Therefore the APDQ can be considered to meet this assumption.

The Semantic Differentials and Causal Attribution Scales are bipolar scales, presenting two opposite items with a scale in between. There is a lack of information regarding how such scales should be analysed. However, both Lewis and Appleby (1988) and Markham and Trower (2003) makes use of parametric tests for the Semantic Differentials and Causal Attribution Scale, thus treating the data as continuous. Therefore a decision was made in the empirical study to also treat this data as continuous.

No significant outliers. A further assumption is that there are no significant outliers as these can result in a large negative effect on the results. Boxplots were checked to view any outliers (see Appendix LL) in conjunction with considering the trimmed mean (See Table 9). The results of this process indicated that any outliers are unlikely to impact upon the results of the analysis.

Normality. The Kolmogorov-Smirnov test (Kolmogorov, 1933 as cited in Dodge, 2008; Massey, 1952 as cited in Dodge, 2008; Smirnov, 1939 as cited in Dodge, 2008) was used as a test of normality for each of the groups (Formulation and Non-formulation) within each of the measures. Overall, either both the results of the Kolmogorov-Smirnov test along with a visual inspection of the histograms (see Appendix MM) or a visual inspection of the histogram alone (when the Kolmogorov-Smirnov test did not suggest normality) suggested normal distributions in the majority of the measures. It was therefore decided that it was appropriate to carry out independent t-tests. Additionally, it should be noted that for sample sizes of more than 30 the violation of the normality assumption is not thought to be too problematic, and it is therefore appropriate to utilise parametric tests regardless of the violation of this assumption (Norman, 2010; Pallant, 2007 as cited in Ghasemi & Zahediasl, 2012). Table 9 shows the results of the Kolmogorov-Smirnov test carried out on the data for each measure within each of the two groups.

Table 9

Results of the Kolmogorov-Smirnov Test of Normality for each Measure within both the Formulation and Non-formulation Groups

	Formulation (n=67)				Non-Formulation (n=74)			
	Mean	Trimmed Mean (5%)	Standard Deviation	Kolmogorov-Smirnov	Mean	Trimmed Mean (5%)	Standard Deviation	Kolmogorov-Smirnov
Semantic Differentials Factor1**	32.67	32.60	5.12	$D(67)=0.10, p=0.067$	33.77	33.53	6.46	$D(74)=0.09, p=0.200*$
APDQ Total**	154.96	154.64	19.33	$D(67)=0.08, p=0.200*$	148.96	149.39	23.03	$D(74)=0.07, p=0.200*$
APDQ Factor 1**	59.67	59.69	12.44	$D(67)=0.06, p=0.200*$	55.73	55.53	11.95	$D(74)=0.07, p=0.200*$
APDQ Factor 2**	47.25	47.28	5.80	$D(67)=0.08, p=0.200*$	46.61	47.18	7.56	$D(74)=0.17, p<0.001$
APDQ Factor 3	26.37	26.48	2.60	$D(67)=0.18, p<0.001$	25.81	25.99	3.17	$D(74)=0.15, p<0.001$
APDQ Factor 4	14.18	14.20	2.12	$D(67)=0.15, p<0.001$	13.59	13.69	2.92	$D(74)=0.16, p<0.001$
APDQ Factor 5	7.48	7.47	1.80	$D(67)=0.16, p<0.001$	7.22	7.26	1.77	$D(74)=0.13, p=0.003$
Causal Attribution Internality**	26.57	26.55	4.91	$D(67)=0.09, p=0.200*$	25.00	25.09	5.32	$D(74)=0.13, p=0.003$
Causal Attribution Stability**	26.52	26.54	4.46	$D(67)=0.08, p=0.200*$	24.57	24.81	4.99	$D(74)=0.10, p=0.048$
Causal Attribution Globaility**	27.09	27.23	4.67	$D(67)=0.10, p=0.073$	25.45	25.67	5.16	$D(74)=0.12, p=0.008$
Causal Attribution Controllability (Cause)**	21.72	21.80	6.75	$D(67)=0.10, p=0.172$	21.27	21.33	5.84	$D(74)=0.09, p=0.198$
Causal Attribution Controllability (Event)**	20.24	20.22	5.61	$D(67)=0.09, p=0.200*$	21.92	22.17	6.21	$D(74)=0.09, p=0.200*$

*Lower-bound of true significance
**Indicates normality in one or both groups for the measure

Exploratory Analysis

A Pearson's correlation was carried out between the number of years of experience that participants identified themselves as having, and each of the measures. The purpose of this was to see whether there was a potential relationship between the amount of experience someone has and their attitude towards individuals with BPD, and how they make causal attributions about an individual with BPD's behaviour. The results of the Pearson correlation are presented in Table 10 below.

The results of the Pearson's correlations demonstrate a weak negative correlation between factor 3 of the APDQ and the number of years worked only (i.e. that people with more years of experience had lower scores). Factor 3 of the APDQ contains items pertaining to acceptance. Therefore the results of this correlation suggest a very weak trend in the direction of less accepting attitudes towards individuals with BPD the more years of experience that a clinical staff member has. (See Appendix NN for the scatterplots for each correlation test.)

Table 10

Pearson Correlations for each Measures and Years of Experience

	Total N	Mean	Standard Deviation	Pearson's correlation (*r*)	*P* value
Semantic Differentials Factor1	141	50.42	9.58	0.01	0.891
APDQ Total	141	151.81	21.49	-0.16	0.065
APDQ Factor 1	141	57.60	12.30	-0.17	0.045
APDQ Factor 2	141	46.91	6.77	-0.04	0.684
APDQ Factor 3*	141	26.08	2.92	-0.23	0.006
APDQ Factor 4	141	13.87	2.58	-0.19	0.023
APDQ Factor 5	141	7.34	1.78	0.08	0.367
Causal Attribution Internality	141	25.74	5.17	0.06	0.496
Causal Attribution Stability	141	25.50	4.83	0.14	0.101
Causal Attribution Globaility	141	26.23	4.99	0.11	0.183
Causal Attribution Controllability (Cause)	141	21.48	6.27	-0.03	0.713
Causal Attribution Controllability (Event)	141	21.12	5.97	-0.02	0.819

*Significant with Holm correction (Holm, 1979) method applied.

Chapter Seven: Extended Discussion and Critical Review

The current thesis portfolio presents a systematic review and an empirical study both on the topic of clinical staff attitudes towards individuals with a diagnosis of Borderline Personality Disorder (BPD).

The systematic review reviewed studies that had utilised quantitative approaches to measure attitudes amongst clinical staff towards individuals with a diagnosis of BPD. The results of the systematic review revealed that a number of poorly developed measures are being utilised to measure this construct, and suggested that it is necessary for further research to take place in regards to the development and validation of measures that are being utilised to measure the construct of clinical staff attitudes towards individuals with BPD. This is to ensure that the results of subsequent studies using such measures will be of higher quality with more trustworthy results.

The empirical study then goes on to investigate whether there will be a difference in clinical staff attitudes towards individuals with BPD and the way in which clinical staff make causal attributions about that individual's behaviour when presented with background information on a patient with a diagnosis of BPD or the same information with the addition of a psychological formulation. The overall results of the empirical study suggest that there was no difference between the two groups in regards to both stigmatised attitudes and how participants made causal attributions about the individual's behaviour, with the exception of the stability dimension on the Causal Attribution Scale (Heider, 1958, as cited in Markham & Trower, 2003). Possible reasons for this overall picture were the complexity of altering stigmatised attitudes, the way in which formulation was used, and the possibility that the sample in the empirical study did not have stigmatising attitudes

that were activated by the diagnosis. These possible reasons were discussed further in the discussion section of the empirical study of the current thesis portfolio.

The following paragraphs of the extended discussion and critical review chapter of the thesis portfolio seek to further discuss and explore the strengths and limitations of the thesis portfolio as a whole, along with potential clinical and theoretical implications, and recommendations for future work.

Strengths and Limitations of the Thesis Portfolio

The empirical study was designed and the proposal for it written prior to deciding on the topic of the systematic review. This of course leads to the situation that the results from the systematic review cannot *a priori* inform the empirical paper. On reflection, the systematic review highlights some important considerations regarding the use of measures which have been used in studies investigating clinical staff attitudes towards individuals with BPD. One of the key issues highlighted by the systematic review is in regards to the development and validation of measures, and how poor quality measures will lead to questionable results. One of the key papers that the empirical study was based upon was included in the systematic review (Chartonas, Kyratsous, Dracass,Lee, & Bhui, 2017). The two measures that were made use of in this paper were then utilised within the empirical study. These two measures were the Semantic Differentials (Lewis & Appleby, 1988) and the Attitudes towards Personality Disorder Questionnaire (APDQ; Bowers & Allan, 2006). The systematic review highlighted the poor quality of the development and validation of the Semantic Differentials and measures in general that claim to measure clinical staff attitudes towards individuals with BPD. The systematic review recommended further work into the development and validation of an appropriate measure which can be used across studies which claim to be measuring the same construct (clinical staff attitudes towards individuals with BPD).

It is possible to query whether I would have commenced with the empirical study in the same way had I have had the benefit of knowing the results of the systematic review in regards to the development and validation of poor quality measures. The answer to this is that I would have done. However, some adaptations may have been made. The reality is that research regarding how stigmatised attitudes can be reduced is important, and therefore it must be queried how research in this area can progress despite the wide spread usage of a number of poor quality measures. In regards to adaptations, I may have sought to include a wider range of measures, for example Bodner, Cohen-Fridel and Iancu's (2011) Cognitive Attitudes and Treatment Inventory and Emotional Attitudes Inventory. These two particular measures have good internal consistency and there is some evidence that they were developed in a way that more closely fits the protocol of developing measures proposed by (de Vet, Terwee, Mokkink, & Knol, 2011). The development process and the internal consistency would have been good reasons to consider these measures. However, I would also not have wanted to exclude using the Semantic Differentials and APDQ, which enabled direct comparisons to the samples within previous studies which had the same design as the empirical study; this is considered a strength of the empirical study which is explored further below.

The systematic review highlights the usage of a number of different measures in the literature which claim to be measuring the same construct (attitudes towards BPD). Furthermore, the systematic review points out that one of the difficulties of this is that comparisons cannot be made across studies which use different measures. However, the empirical study in the current thesis portfolio is able to make these comparisons due to using the same measures as three previous studies. The results of this comparison suggests that the sample from the empirical study in the current thesis portfolio carries less stigmatised attitudes overall than the samples from previous studies. This is an important

comparison to make as a general reduction in stigmatised attitudes towards individuals with a diagnosis of BPD by staff in clinical practice is what is being aimed for. It would be difficult to know if any progress is being made towards this aim, when multiple different measures are being used which are claiming to measure the same construct. It should be noted however that t-tests were used to make these comparisons. However, the exact features of the data from previous studies was not known. This minor criticism extends back to the fact that many researchers fail to report basic information about the properties of their data. Perhaps unsurprisingly given the generally poor rate of reporting of basic psychometric information noted in the systematic review of the current thesis portfolio, it is not fully clear whether such assumptions were met in the comparison data, and therefore this somewhat limits the robustness of the comparisons and conclusions that can be drawn.

Following on from the conclusions drawn about poor reporting of psychometric properties in the systematic review, a strength of the empirical paper is that it attempted to fully report how the measures were used and any psychometric properties calculated, for example Cronbach's alpha (Cronbach, 1951). This should make replication of the empirical study, especially in regards to utilising the same measures, more straightforward for future researchers. It is also of interesting note that email correspondence with the authors of the Semantic Differentials (Lewis & Appleby, 1988) suggested that they were not sure that the measure was measuring one internal construct (despite scoring the measure by summing the items), and that it would not be appropriate to calculate the Cronbach's alpha (see Appendix OO). Interestingly the follow-up study by Chartonas et al. (2017) went on to carry out an exploratory factor analysis revealing three factors, one of which was considered primary and was utilised by Chartonas and colleagues and the empirical study in the current thesis portfolio to measure staff attitudes by summing each of the items. Further to this, the empirical study in the current thesis portfolio went on to

calculate the Cronbach's alpha for the Semantic Differentials, demonstrating high internal consistency. This process demonstrates the ongoing measure validation (Flake, Pek, & Hehman, 2017) that can be carried out by different researchers over different studies, thus adding to the literature base in regards to information known about the properties of a measure.

Within the empirical study, as a method of exploring the robustness of the results and how confident one can be in the results obtained, sensitivity analyses were carried out. This is a process not routinely used in psychological research. It involves repeating the main analysis but with different assumptions about the sample and with different subgroups of participants in order to determine whether findings are robust. This can therefore be considered to be a strength of the empirical study. The results of the sensitivity analyses support the broad picture that the presence of a psychological formulation does not alter the attitudes of clinical staff and the way staff make causal attributions about the behaviour of an individual with BPD, in all areas except the causal attribution dimension of stability. However, as there were a few small differences in respect to the removal of clinical psychologists, the removal of participants who identified themselves as working in specialist personality disorder services and the removal of participants who identified themselves as having received specialist personality disorder training, these could be areas for future exploration, for example by carrying out the study with different professional groups or staff from specific service types.

A limitation of the systematic review is that it only reviewed studies between 2008 and 2018. The intention of this was so that the review included only contemporary research. Any studies which were not development or validation studies of measures were only reviewed in regards to the validation information they add to the original development of the measure. However, the way in which the systematic review was carried out means

that the original sources of measures were not reviewed and quality assessed (if they fell

outside of the specified time boundary). Thus, if researchers in the future wish to

understand the quality of measures such as the APDQ, they would need to consult the

source of the measure, as this information was not systematically reviewed within the

systematic review of the current thesis portfolio. The systematic review did however

provide a table of the cited sources and psychometric properties available within them, as

this may be helpful to future researchers. However, it should be noted that this information

was obtained only by looking at the cited source of the measure, and not by further

systematic review methods.

Clinical Implications

A potential clinical implication resulting from the empirical study within the

current thesis portfolio is that of how formulations are made use of in clinical settings. It

has previously been highlighted within the empirical study that there has been

recommendations to move away from an approach of diagnosis for people with BPD due

to the questionable validity of the diagnosis (Horn, Johnstone, & Brooke, 2007).

Movement towards a formulation approach has therefore been recommended as this may

help clinical staff to understand the difficulties faced by individuals with BPD from a

psychological perspective.

Although the overall picture of the empirical study within the current thesis

portfolio is that there is no difference in attitude towards individuals with BPD and the way

in which clinical staff make causal attributions about the behaviour of the individual when

a psychological formulation is presented in addition to a diagnosis and brief background

information about the presenting problem, there was one important significant difference in

regards to the causal attribution dimension of stability. The results of the empirical study

suggest that those in the Formulation group viewed the behaviour of the individual in the

vignette as being more stable across similarly occurring events. As discussed in the empirical study this may be because a clearer origin of the cause of the behaviour and maintaining factors have been presented (via the formulation), which makes it more likely for participants to perceive patterns in the behaviour and therefore see the behaviour as something likely to reoccur. This therefore is a relevant unintended and potentially paradoxical consequence of utilising a formulation based approach. A potential clinical implication is that this could reinforce the idea that change is not possible for the patient, and these patterns of behaviour will always pervade. This could be considered to be concerning, considering that in the past it has been thought that individuals with BPD could not be treated and the symptoms of BPD would always persist for the diagnosed individual. Knaak, Szeto, Fitch, Modgill, and Patten (2015) highlight this false belief amongst clinical staff as a possible reason for the persistence of stigmatised attitudes, and Aviram, Brodsky, & Stanley (2006; p. 254) suggests that stigmatised attitudes can be "transmitted" between clinical staff. A formulation which results in clinical staff believing behaviours to be stable across similarly occurring events coupled with this belief could be problematic for individuals with BPD needing treatment, especially as there is research suggesting that individuals with BPD are capable of changing these patterns of behaviour follow treatment. For example, a systematic review carried out by Ng, Bourke, and Grenyer (2016) identifies a number of studies which demonstrate the possibility of symptom reduction for individuals with BPD. Something to consider however is that the empirical study did not ask whether participants thought the behaviour would be stable across similar events following treatment, therefore we cannot know for definite that this concern is present within a clinical setting.

Additionally, as noted in the empirical study, although there was a significant difference between the Formulation and Non-formulation groups, the mean scores for both

groups was at the higher end of the scale. This suggests that those in the Non-formulation

group also, to some extent, viewed the cause of the behaviour as stable across similar

events. Therefore this view may not wholly be caused by the presence of the

psychological formulation. Future research may therefore seek to further investigate the

dimension of stability in respect to the behaviours of individuals with BPD. Additionally,

future research may also seek to find out whether the beliefs about the possibility of

recovery and symptom reduction still prevail amongst clinical staff, and whether it is

thought that behaviours would remain stable following treatment.

An additional point to consider is regarding the use of different types of

formulations within clinical practice. Although there is a general agreement on the likely

benefits of formulation, there appears little agreement on how this should be carried out.

The empirical study within the current thesis portfolio makes use of a 5P approach (Dudley

& Kuyken, 2014). As previously discussed the rationale for choosing the 5P approach was

that it includes developmental information relevant to contextualise the behaviour of the

individual. It should be noted however that we only know that the formulation causes

participants to perceive the cause of the behaviour to be more stable across events when a

5P formulation is presented. This may not be the case if an alternative type of formulation

were to be presented, for example a Cognitive Behaviour Therapy longitudinal formulation

(Beck, 2011) or a Dialectical Behaviour Therapy (DBT) formulation (Manning, 2018).

Theoretical and Research Implications

One of the main theoretical implications highlighted by the current thesis portfolio

is regarding the concept of stigma and how this can best be measured within the context of

clinical staff attitudes towards individuals with BPD. The discussion section of the

empirical study explores the idea that the complexity of stigma as a concept may be a

potential reason for how challenging it is to alter stigmatised attitudes. As previously

suggested in the introductory chapter to the current thesis portfolio, Ferguson and

Fukukura (2012) suggest a social cognitive view of attitudinal change, which proposes

attitudes become strengthened based on exposure to a stimulus (in the case of BPD for

example, experience of the behaviours of a person with BPD). They suggest that each

exposure may strengthen the existing attitude. Therefore changes in attitude may be

something that needs to occur slowly over time in response to a stimulus which enables

learning to take place regarding the target stimulus (i.e. individuals with BPD and the

behaviours they present with). Future research could further explore this theory and how

this can be utilised within attitude change. This may require more longitudinal studies, to

explore attitude change over time.

The broad array of measures identified in use within research in the systematic

review point to disagreement amongst researchers regarding the construct that is being

measured and the best way to measure it. The implication therefore is that further work is

needed regarding the concept of stigmatised attitudes, how this latent concept can be

measured and what is the best quality measure with which to measure this concept.

Interestingly, one of the studies identified within the systematic review (Bodner,

Cohen-Fridel, & Iancu, 2011) drew a distinction between cognitive attitudes and emotional

attitudes. This study sought then to develop two measures based upon this distinction.

This is a distinction that has not been explicitly made amongst other researchers within this

field, and therefore provides support to the previously made point that there is a lack of

agreement regarding the concept being measured. Future research could more closely

explore these two potential constructs of stigmatised attitudes.

A further point to note is that the empirical study only considered explicit attitudes

as opposed to implicit attitudes. Although the study did not explicitly state that what was

being measured were attitudes towards individuals with BPD, the nature of the measures

still asked individuals to report their own judgements towards the individual in the

vignette, thus accessing their explicit attitude only. The research within this area does not

appear to make a distinction between implicit and explicit attitudes, although, as

highlighted in the introductory chapter of the current thesis portfolio, research in other

areas does (e.g. Pantos & Perkins, 2012). This raises questions regarding whether there

are different implications for implicit and explicit attitudes in regards to clinical staff

attitudes towards individuals with BPD, what the behaviours that may result from each

type of attitude may be, and whether further research is needed in this area. An interesting

approach for future research may be for a replication of the two key studies (Chartonas et

al., 2017; Lewis & Appleby, 1988) using an approach which measures implicit attitudes

rather than explicit attitudes.

Other Points of Reflection

One of the assumptions made at the proposal stage of the empirical study was that

stigma would be experienced similarly in other professional groups as the psychiatrists in

the studies of Lewis and Appleby (1988) and Chartonas et al. (2017). This assumption was

based upon other studies which indicated that overall, clinical staff tend to experience more

stigmatising attitudes towards individuals with BPD than other mental illnesses (e.g. Fraser

& Gallop, 1993; Lam, Salkovskis, & Hogg, 2016; Woollaston & Hixenbaugh, 2008).

However, as a result of the empirical study within the current thesis portfolio, where it was

demonstrated that there was less stigmatised attitudes in general as compared with

Chartonas et al.'s (2017) sample, it is possible to query whether this is in fact the case, and

the difference between the samples is due to the mixed sample within the empirical study

in the current thesis portfolio. It is therefore possible to query whether it would have been

logical to repeat the study of Lewis and Appleby (1988) and Chartonas et al. (2017) but

with a mixed sample, which would have enabled comparisons between the different professional groups. This would then provide further insight into whether all staff experience stigmatised attitudes towards individuals with BPD, and whether future research in the area should study staff groups individually.

Carrying out a systematic review on measures used to measure staff attitudes towards individuals with BPD was a very interesting and insightful experience in regards to how measures should be developed and validated, and how this information is reported within published studies. The process of extracting the information regarding the measures was complicated in respect to working out such information as how many items had been used, whether the reporting of internal consistency was from the current study or a previous study, what the subscales were and how they had been deciphered, and how the measure had been developed. Some of this information was not reported, and some of it was poorly explained. Going through this process in carrying out the systematic review meant that I aimed to more thoroughly report the usage of measures within the empirical study so that any readers of this research will have a clear understanding of how measures were utilised. This is important for potential future replication of this study.

Future Directions

Future directions have been discussed in both the systematic review and in the empirical study. The first area for potential future work is in regards to the concept of attitudes towards individuals with BPD amongst clinical staff and how this can best be measured. Measure development should be done rigorously and subsequent studies should seek to validate measures. Additionally, it is imperative that further validation work is done in the area of measuring instruments which measure clinical staff attitudes towards individuals with a diagnosis of BPD. Additionally, future research in the area of clinical

staff attitudes to individuals with BPD should seek to include ongoing reporting of psychometric properties (Flake et al., 2017).

A further suggestion in regards to measures is that there is a rationale for carrying out a more in depth systematic reviews on specific measures, such as the APDQ (Bowers & Allan, 2006) and the Cognitive Attitudes and Treatment Inventory and Emotional Attitudes Inventory (Bodner et al., 2011). Such a systematic review would seek to gather all of the information in regards to the development, validation and usage of these measures, with no time-limits on the searches. This piece of work would then make steps towards the validation of a robust measure that could be used across different studies which seek to measure clinical staff attitudes towards individuals with BPD. A further useful systematic review would be one which seeks to qualitatively explore the content of the measure items, in a manner similar to the systematic review into measures of mental health stigma carried out by Fox, Earnshaw, Taverna, and Vogt (2017). This may help to conceptualise clinical staff attitudes towards BPD and directly compare the similarities and differences of the measures in use.

A further future direction in regards to the empirical study is the replication of the two key studies (Chartonas et al., 2017; Lewis & Appleby, 1988), but in a manner that seeks to compare the staff professional groups. Repeating the two key studies and seeking to investigate implicit rather than explicit attitudes is also another possible future direction.

Additionally, repeating the current empirical study using formulation differently (in a way which enables greater engagement and processing of the information, such as via a team consultation session) would also be useful. Furthermore, the causal attribution dimension of stability could be further explored, and whether clinical staff believe the

cause of the behaviour to remain stable following the treatment and symptom reduction of

individuals with BPD.

Entire Thesis Portfolio Reference List

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Appendices
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In addition, you can link to relevant data or entities through identifiers within the text of your manuscript, using the following format: Database: xxxx (e.g., TAIR: AT1G01020; CCDC: 734053; PDB: 1XFN).

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This journal supports Mendeley Data, enabling you to deposit any research data (including raw and processed data, video, code, software, algorithms, protocols, and methods) associated with your manuscript in a free-to-use, open access repository. During the submission process, after uploading your manuscript, you will have the opportunity to upload your relevant datasets directly to *Mendeley Data*. The datasets will be listed and directly accessible to readers next to your published article online. For more information, visit the Mendeley Data for journals page.

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Appendix B: Mandatory Author Disclosure Statements

Contributors
The primary author designed the systematic review, carried out the searches, screened the

titles and abstracts, reviewed full texts, synthesised the data from the included studies, and

wrote the manuscript. The second author (who was the research supervisor) contributed by

assessing the eligibility of the studies, carrying out quality assessments on the included

studies, and editing and proofreading the manuscript.

Conflicts of interest
Both authors disclose no conflicts of interest.

Appendix C: Highlights

- A number of measurements exist which have been used to measure clinical staff attitudes towards individuals with a Borderline Personality Disorder (BPD).

- The majority of measurement approaches are questionnaire-based, self-report measures.

- A number of the measures have not been developed or validated using robust protocol, and this has impacted upon the quality of the measures.

- The systematic review recommends that further work is carried out in regards to the validation of measures which seek to measure clinical staff attitudes towards individuals with BPD.

Appendix D: PROSPERO Registration

PROSPERO Registration message [108895]

CRD-REGISTER <irss505@york.ac.uk>

Fri 05/10/2018, 14:20
Harriet Darby (MED - Postgraduate Researcher)
Deleted Items

Dear Miss Darby,

Thank you for submitting details of your systematic review "A
systematic review of the measures used in quantitative studies to
assess staff attitudes towards individuals with a borderline
personality disorder in clinical settings" to the PROSPERO register.
We are pleased to confirm that the record will be published on our
website within the next hour.

Your registration number is: CRD42018108895

You are free to update the record at any time, all submitted changes
will be displayed as the latest version with previous versions
available to public view. Please also give brief details of the key
changes in the Revision notes facility. You can log in to PROSPERO and
access your records at
https://emea01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.crd.york.ac.u
k%2FPROSPERO&data=02%7C01%7Ch.darby%40uea.ac.uk%7C45e2993ccf4a439912
5e08d62ac551e6%7Cc65f8795ba3d43518a070865e5d8f090%7C0%7C0%7C636743424312
612141&sdata=uQvOXiV9J5HTCRSjo20sVs%2BQ6CPMhWFY2OwUJoFMa%2BU%3D&
amp;reserved=0

Comments and feedback on your experience of registering with PROSPERO
are welcome at: crd-register@york.ac.uk

Best wishes for the successful completion of your review.

Yours sincerely,

PROSPERO Administrator
Centre for Reviews and Dissemination
University of York
York YO10 5DD
t: +44 (0) 1904 321049
e: CRD-register@york.ac.uk

Appendix E: Screenshot of PROSPERO Registration

Appendix F: Thesaurus terms used in PsycARTICLES and PsycINFO

Borderline Personality Disorder

Personality Disorders

NOT Parkinson's Disease

Health Personnel

Health Personnel Attitudes

Appendix G: Search Example from Medline (EBSCO)[19]

MY

EBSCOhost

Thursday, February 14, 2019 10:00:10 AM

#	Query	Limiters/Expanders	Last Run Via	Results
S13	S9 AND S10 AND S11	Limiters - Date of Publication: 20080101-20181231 Expanders - Apply related words; Apply equivalent subjects Search modes - Find all my search terms	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE Complete	370
S12	S9 AND S10 AND S11	Expanders - Apply related words; Apply equivalent subjects Search modes - Find all my search terms	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE Complete	764
S11	S3 OR S8	Expanders - Apply related words; Apply equivalent subjects Search modes - Find all my search terms	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE Complete	464,291
S10	S2 OR S7	Expanders - Apply related words; Apply equivalent subjects Search modes - Find all my search terms	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE Complete	854,593
S9	S1 OR S6	Expanders - Apply related words; Apply equivalent subjects Search modes - Find all my search terms	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE Complete	269,706
S8	(MH "Attitude of Health Personnel")	Expanders - Apply related words; Apply equivalent subjects Search modes - Find all my search terms	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE Complete	113,906
S7	(MH "Nursing Staff") OR (MH "Psychiatric Nursing") OR (MH "Health Personnel") OR (MH "Medical Staff")	Expanders - Apply related words; Apply equivalent subjects Search modes - Find all my search terms	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE Complete	75,043
S6	((MH "Borderline Personality Disorder") OR (MH "Personality Disorders")) NOT (MH "Parkinson Disease")	Expanders - Apply related words; Apply equivalent subjects Search modes - Find all my search terms	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE Complete	24,512
S5	(MH "Parkinson Disease")	Expanders - Apply related words; Apply equivalent subjects Search modes - Find all my search terms	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE Complete	60,501
S4	(MH "Borderline Personality Disorder") OR (MH "Personality Disorders")	Expanders - Apply related words; Apply equivalent subjects Search modes - Find all my search terms	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE Complete	24,562
S3	attitude* OR stereotyp* OR prejudice* OR stigma*	Expanders - Apply related words Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE Complete	463,966
S2	nurse* OR "mental health nurse*" OR "support worker*" OR "health care assistant*" OR hca* OR psychiatrist* OR psychologist* OR "social worker*" OR "occupational therapist*" OR ot OR ots OR "probation officer*" OR multidisciplinary OR multi-disciplinary OR "multi disciplinary" OR mdt* OR staff OR team*	Expanders - Apply related words Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE Complete	822,831
S1	"borderline*" OR "personality disorder*" OR pd OR bpd OR eupd OR "emotionally unstable"	Expanders - Apply related words Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE Complete	266,636

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[19] Author note: the number of searches does not match the cited number within the systematic review (by a difference of one) due to the date the searches were run. This screenshot was taken from running of the searches using the exact same (previously saved) search a few weeks before submission.

Appendix H: Eligibility Screening Tool

Reviewer:		Date:
Author name and study ID:		Year:
Title:		Journal:

	Include	**Exclude**
Population	Clinical staff who work directly service users, e.g. nurses, doctors, healthcare assistants, psychologists, social workers, prison officers OR students who are in service user facing roles, e.g. on placement OR students of clinical professions	Staff that are not in a clinical role, e.g. administrative staff, police, solicitors
Setting	Clinical settings (mental health, physical health, forensic, inc. prison) OR academic settings where staff population is health related OR belonging to their professional body	Non-clinical settings (e.g. police, courts of law), including mixed clinical and non-clinical where it is not possible to separate participant responses An exclusively under 18 setting
Design	Any design that is quantitative including mixed methods (where there is a quantitative component to the research) with quantitative data being collected and analysed OR studies that investigate the psychometric properties of the measure	Qualitative designs Papers that are not a study, i.e. do not collect and analyse data/ analyse the psychometric properties of something, e.g. an article about someone's personal experience Systematic reviews
Measures	Studies that use measures that are explicitly named as measuring attitudes towards borderline personality disorder (including studies that use measures that are not named as measuring attitudes towards BPD but have been used in the study as measuring attitudes towards BPD (attitudes towards other difficulties may also be measured by the same measure within the study) and studies that use other quantitative approaches for measuring attitudes towards BPD, e.g. a scoring system) Studies measuring attitudes towards BPD in adults and studies where the age group is not mentioned, but the study appears to assume adulthood. Studies include the use of vignettes and fictitious scenarios are acceptable ('attitudes' includes emotional and cognitive response)	Studies that use measures that have not been used specifically for measuring attitudes towards BPD Studies that measure attitudes towards other types of personality disorder, e.g. anti-social personality disorder and not BPD, or the personality disorder type is not specified, or studies where it is not possible to separate non-relevant data (measuring something else) from data measuring attitudes towards BPD Studies where BPD is not stated as the primary problem or there is co-morbidity for the individuals in question (real individuals or fictitious, e.g. in vignettes); the individuals are under 18; there is a mixed presentation Studies that explicitly seek to measure attitudes towards patients with a specific feature of BPD or a specific features of BPD only (e.g. self-harm, suicidal ideation) Studies that do not measure attitudes, e.g. studies that measure knowledge of BPD
Language	Studies written in English Studies where the abstract is in English	Studies not written in English

Appendix I: Data Extraction Tool (carried out per study)

Author(s)	
Year	
Measures used to measure attitudes towards BPD	
Source of measure	
Study setting (including country)	
Study population	
Number of participants (including gender balance)	
Mean/ median age	
Study design	
Study aims	
Information extracted per measure (for attitude towards BPD) in each paper	
Measure	
Type of measure	
Number of items	
Subscales/ factors	
Measure construction	
Scoring algorithm	
Designed for use with BPD?	
Adaptations	
Psychometric properties reported from previous studies	
Psychometric properties calculated in reviewed study	

Appendix J: COSMIN Tool (version 1; measures developed in the reviewed study)

Paper title
Author
Measure

		Very good	Adequate	Doubtful	Inadequate	N/A
	PROM Design (wording adapting to make it suitable for staff)					
General design requirements	Is a clear description provided of the construct to be measured?					
	Is the origin of the construct clear: was a theory, conceptual framework or disease model used or clear rationale provided to define the construct to be measured?					
	Is a clear description provided of the target population for which the measure was developed?					
	Is a clear description provided of the context of use?					
	Was the measure development study performed in a sample representing the target population for which the measure was developed?					
	Was an appropriate qualitative data collection method used to identify relevant items for a new measure?					
Concept elicitation (relevance and comprehensiveness)	Were skilled group moderators/ interviewers used?					
	Were the group meetings or interviews based on an appropriate topic or interview guide?					
	Were the group meetings or interviews recorded and transcribed verbatim?					
	Was an appropriate approach used to analyse the data?					
	Was at least part of the data coded independently?					
	Was data collection continued until saturation was reached?					
	For quantitative studies (surveys): was the sample size appropriate?					
	Content Validity					
Design requirements	Was an appropriate method used to ask professionals whether each item is relevant for the construct of interest?					
	Were professionals from all relevant disciplines included?					
	Was each item tested in an appropriate number of professionals?					
Analyses	Was an appropriate approach used to analyse the data?					
	Were at least two researchers involved in the analysis?					
	Structural Validity					
	Does the scale consist of effect indicators, i.e. is it based on a reflective model? Yes/No					
	Does the scale concern unidimensionality or structural validity? Unidimensionality/ structural validity					
Statistical methods	For CTT: Was exploratory or confirmatory factor analysis performed?					
	For IRT/ Rasch: does the chosen model fit to the research question?					
	Was the sample size included in the analysis adequate?					
Other	Were there any other important flaws in the design or statistical methods of the study?					
	Internal Consistency					
	Does the scale consist of effect indicators, i.e. is it based on a reflective model? Yes/No					
Design requirements	Was an internal consistency statistic calculated for each unidimensional scale or subscale separately?					
Statistical methods	For continuous scores: Was Cronbach's alpha or omega					

	calculated?					
	For dichotomous scores: Was Cronbach's alpha or KR-20 calculated?					
	For IRT-based scores: Was standard error of the theta (SE (θ)) or reliability coefficient of estimated latent trait value (index of (subject or item) separation) calculated?					
Other	Were there any other important flaws in the design or statistical methods of the study?					
Design requirements	**Reliability**					
	~~Were patients stable in the interim period on the construct to be measured?~~					
	Was the time interval appropriate?					
	Were the test conditions similar for the measurements? E.g. type of administration, environment, instructions					
Statistical methods	For continuous scores: Was an intraclass correlation coefficient (ICC) calculated?					
	For dichotomous/ nominal/ ordinal score: Was kappa calculated?					
	For ordinal scores: Was a weighted kappa calculated?					
	For ordinal scores: Was the weighting scheme described? E.g. linear, quadratic					
Other	Were there any other important flaws in the design or statistical methods of the study?					
Statistical methods	**Criterion validity**					
	For continuous scores: Were correlations, or the area under the receiver operating curve calculated?					
	For dichotomous scores: Were the sensitivity and specificity determined?					
Other	Were there any other important flaws in the design or statistical methods of the study?					

Appendix K: COSMIN Tool (version 2; adapted and non-adapted pre-existing measures)

Paper title
Author
Measure

		Very good	Adequate	Doubtful	Inadequate	N/A
General design requirements	**PROM Design (wording adapting to make it suitable for staff)**					
	Is a clear description provided of the construct to be measured?	Shaded area not used				
	Is the origin of the construct clear: was a theory, conceptual framework or disease model used or clear rationale provided to define the construct to be measured?					
	Is a clear description provided of the target population for which the measure was developed?					
	Is a clear description provided of the context of use?					
	Was the measure development study performed in a sample representing the target population for which the measure was developed?					
	Was an appropriate qualitative data collection method used to identify relevant items for a new measure?					
Concept elicitation (relevance and comprehensiveness)	Were skilled group moderators/ interviewers used?					
	Were the group meetings or interviews based on an appropriate topic or interview guide?					
	Were the group meetings or interviews recorded and transcribed verbatim?					
	Was an appropriate approach used to analyse the data?					
	Was at least part of the data coded independently?					
	Was data collection continued until saturation was reached?					
	For quantitative studies (surveys): was the sample size appropriate?					
Design requirements	**Content Validity**					
	Was an appropriate method used to ask professionals whether each item is relevant for the construct of interest?					
	Were professionals from all relevant disciplines included?					
	Was each item tested in an appropriate number of professionals?					
Analyses	Was an appropriate approach used to analyse the data?					
	Were at least two researchers involved in the analysis?					
Statistical methods	**Structural Validity**					
	Does the scale consist of effect indicators, i.e. is it based on a reflective model? Yes/No					
	Does the scale concern unidimensionality or structural validity? Unidimensionality/ structural validity					
	For CTT: Was exploratory or confirmatory factor analysis performed?					
	For IRT/ Rasch: does the chosen model fit to the research question?					

	Was the sample size included in the analysis adequate?					
Other	Were there any other important flaws in the design or statistical methods of the study?					
	Internal Consistency					
	Does the scale consist of effect indicators, i.e. is it based on a reflective model? Yes/No					
Design requirements	Was an internal consistency statistic calculated for each unidimensional scale or subscale separately?					
Statistical methods	For continuous scores: Was Cronbach's alpha or omega calculated?					
	For dichotomous scores: Was Cronbach's alpha or KR-20 calculated?					
	For IRT-based scores: Was standard error of the theta (SE (θ)) or reliability coefficient of estimated latend trait value (index of (subject or item) separation) calculated?					
Other	Were there any other important flaws in the design or statistical methods of the study?					
	Reliability					
Design requirements	~~Were patients stable in the interim period on the construct to be measured?~~					
	Was the time interval appropriate?					
	Were the test conditions similar for the measurements? E.g. type of administration, environment, instructions					
Statistical methods	For continuous scores: Was an intraclass correlation coefficient (ICC) calculated?					
	For dichotomous/ nominal/ ordinal score: Was kappa calculated?					
	For ordinal scores: Was a weighted kappa calculated?					
	For ordinal scores: Was the weighting scheme described? E.g. linear, quadratic					
Other	Were there any other important flaws in the design or statistical methods of the study?					
	Criterion validity					
Statistical methods	For continuous scores: Were correlations, or the area under the receiver operating curve calculated?					
	For dichotomous scores: Were the sensitivity and specificity determined?					
Other	Were there any other important flaws in the design or statistical methods of the study?					

Appendix L: Information Regarding Sources of Pre-existing Measures

Table L11

Information Regarding Sources of Pre-existing Measures

Reviewed study	Measure	Original reference	Original purpose of questionnaire	Construct validity reported in original cited study	Psychometrics reported in original cited study
C	Unnamed – Implicit attitudes assessment using a vignette (subscale 1)	Markham and Trower, 2003	To measure staff optimism and sympathy towards BPD	Not reported	Not reported
C	Unnamed – Implicit attitudes assessment using a vignette (subscale 2)	Markham and Trower, 2003	To measure staff optimism and sympathy towards BPD	Not reported	Not reported
C	Unnamed – Traits of a patient	Deluty, 1988	To measure attitudes towards suicide	Factor analysis resulting in 2 factors	Not reported
E	Core Conflictual Relationship Theme – Leipzig/ Ulm method (CCRT-LU)	Albani, Pokorny, Blaser, Gruninger, Konig, Marschke et al. (2002)	A technique for assessing central relationship patterns in psychotherapy research	N/A	N/A
F	Attitudes towards Personality Disorder Questionnaire	Bowers and Allan (2006)	To measure attitudes amongst staff towards personality disorders	Factor analysis resulting in 5 factors	Cronbach's alpha (α=0.04) for entire scale
F	22 Semantic Differentials	Lewis and Appleby (1988)	To measure attitudes amongst staff towards an individual with a personality disorder	Not reported	Not reported
G	Mental Health Locus of Origin	Hill and Bale (1980)	To assess beliefs regarding the origin of behaviour	Not reported	Cronbach's alpha (α=0.76)

G	Perspective Taking Subscale – Interpersonal Reactivity Index	Davis (1980)	To assess spontaneous attempts to adapt the perspective of others	Factor analysis of entire scale (Perspective Taking is one subscale)	Reported to have 'satisfactory internal reliability' for entire scale
G	Empathic Concern Subscale – Interpersonal Reactivity Index	Davis (1980)	To assess feelings of warmth, compassion and concern for others	Factor analysis of entire scale (Empathic Concern is one subscale)	Reported to have 'satisfactory internal reliability' for entire scale
H	Attitudes to Personality Disorder Questionnaire (short 10-item version)	Full version referenced to Bowers and Allan (2006)	-	-	-
H	Attitudes and Skills Questionnaire	Krawitz (2004)	To measure attitudes towards people with BPD	Not reported	Not reported
K	23-item questionnaire	Cleary, Siegfried and Walter (2002)	To measure experience, knowledge and attitudes amongst towards people	Not reported	Not reported
M	Opening Minds Scale for Healthcare Providers (OMS-HC)	Kassam, Papish, Modgill, Patten (2012)	To assess attitudes of healthcare providers towards people with mental illness	Factor analysis resulting in 2 factors	Cronbach's alpha (α=0.82) Intra-class correlation =0.66 Reported to have satisfactory test-retest reliability
P	General Attitude Questionnaire	Lam et al. (2005)	To measure attitudes towards people with common psychiatric/ psychological conditions	Not reported	Test re-test reliability reported for each subscale Cronbach's alpha reported for each subscale

Appendix M: References for Reviewed Studies

Black, D. W., Pfohl, B., Blum, N., McCormick, B., Allen, J., North, C. S., … Zimmerman, M. (2011). Attitudes toward borderline personality disorder: a survey of 706 mental health clinicians. *CNS Spectrums*, *16*, 579–586. https://doi.org/10.1017/S109285291200020X

Bodner, E., Cohen-Fridel, S., & Iancu, I. (2011). Staff attitudes toward patients with borderline personality disorder. *Comprehensive Psychiatry*, *52*, 548–555. https://doi.org/10.1016/j.comppsych.2010.10.004

Bourke, M. E., & Grenyer, B. F. S. (2010). Psychotherapists' response to borderline personality disorder: a core conflictual relationship theme analysis. *Psychotherapy Research*, *20*, 680–691. https://doi.org/10.1080/10503307.2010.504242

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Day, N. J. S., Hunt, A., Cortis-Jones, L., & Grenyer, B. F. S. (2018). Clinician attitudes towards borderline personality disorder: a 15-year comparison. *Personality And Mental Health*, *12*, 309–320. https://doi.org/10.1002/pmh.1429

Dickens, G. L., Lamont, E., & Stirling, F. J. (2018). Student health professionals' attitudes and experience after watching "Ida's Diary", a first-person account of living with

borderline personality disorder: mixed methods study. *Nurse Education Today*, *65*,

128–135. https://doi.org/10.1016/j.nedt.2018.03.003

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experience and views. *Arab Journal of Psychiatry*, *20*(2), 135–146. Retrieved from

https://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2009-25226-

004&site=ehost-live

Giannouli, H., Perogamvros, L., Berk, A., Svigos, A., & Vaslamatzis, G. (2009). Attitudes,

knowledge and experience of nurses working in psychiatric hospitals in Greece,

regarding borderline personality disorder: a comparative study. *Journal Of*

Psychiatric And Mental Health Nursing, *16*, 481–487. https://doi.org/10.1111/j.1365-

2850.2009.01406.x

Herschell, A. D., Lindhiem, O. J., Kogan, J. N., Celedonia, K. L., & Stein, B. D. (2014).

Evaluation of an implementation initiative for embedding dialectical behavior therapy

in community settings. *Evaluation And Program Planning*, *43*, 55–63.

https://doi.org/10.1016/j.evalprogplan.2013.10.007

Keuroghlian, A. S., Palmer, B. A., Choi-Kain, L. W., Borba, C. P. C., Links, P. S., &

Gunderson, J. G. (2016). The effect of attending Good Psychiatric Management

(GPM) workshops on attitudes toward patients with borderline personality disorder.

Journal of Personality Disorders, *30*, 567–576.

https://doi.org/10.1521/pedi_2015_29_206

Knaak, S., Szeto, A. C. H., Fitch, K., Modgill, G., & Patten, S. (2015). Stigma towards

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program for healthcare providers using a pre-post randomized design. *Borderline*

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Lam, D. C. K., Poplavskaya, E. V., Salkovskis, P. M., Hogg, L. I., & Panting, H. (2016).
An experimental Investigation of the Impact of Personality Disorder Diagnosis on
Clinicians: Can We See Past the Borderline? *Behavioural and Cognitive
Psychotherapy*, *44*(3), 361–373. https://doi.org/10.1017/S1352465815000351

Lam, D. C. K., Salkovskis, P. M., & Hogg, L. I. (2016). "Judging a book by its cover": an
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disorder on clinicians' judgements of uncomplicated panic disorder. *British Journal of
Clinical Psychology*, *55*, 253–268. https://doi.org/10.1111/bjc.12093

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patients with borderline personality disorder be changed? The effect of attending a
STEPPS workshop. *Journal of Personality Disorders*, *25*, 806–812.
https://doi.org/10.1521/pedi.2011.25.6.806

Appendix N: Obtainability of Measures

Table N12

Obtainability of Measures

Study ID	Measure ID	Measures	Measure obtainability
A	1	31-item self-report questionnaire (15 items concerning attitudes only)	Items published in original paper
B, C, I	3	Cognitive Attitudes and Treatment Inventory	Items published in original paper (however, it is not clear which items have been included in subsequent uses or which items are included in each subscale)
	4	Emotional Attitudes Inventory	
C	5	Unnamed – implicit attitudes assessment using a vignette – decision to hospitalise	Description of measure in paper (with enough information that it could be replicated)
	6	Unnamed – implicit attitudes assessment using a vignette – length of hospitalisation	Description of measure in paper (with enough information that it could be replicated)
	7	Unnamed – traits of patient	Description of measure in paper (with enough information that it could be replicated)
E	8	Core conflictual relationship theme Leipzig/Ulm method (CCRT-LU)	Description of measure in paper (with enough information that it could be replicated)
F	9	22 Semantic differentials	Published in original (referenced) paper and paper included in review
	10	Attitudes towards Personality Disorder Questionnaire	Published in original (referenced) paper
G	11	Mental Health Locus of Origin Scale	Published in original (referenced) paper

	12	The empathic concern subscale (Interpersonal Reactivity Index)	Published in original (referenced) paper
	13	The perspective taking scale (Interpersonal Reactivity Index)	Published in original (referenced) paper
H	14	Attitudes to Personality Disorder Questionnaire (short 10-item version)	Not published. Author contacted – no response
	15	Attitudes and Skills Questionnaire	Description of measure in original (referenced) paper (with enough information that it could be replicated)
J	16	Unnamed – self-report questionnaire	Not published. Author contacted – no response
K	17	23-item questionnaire	Not published in original (referenced) paper. Author of reviewed study contacted – no response
L	18	Therapist Survey - (including the attitude towards consumers with BPD scale)	Not published. Author contacted – no response
M	19	Opening Minds Scale for Healthcare Providers (OMS-HC) 'BPD specific'	Published in original (referenced) paper
N	20	31-item self-report questionnaire (15/9 items concerning attitudes only)	Author contacted – confirmed to have used the questionnaire in the same way as the referenced source (Study Q)
O	21	Unnamed quantitative approach (optimistic/ pessimistic)	Approach described in study with enough information for replication
P	22	Clinical Assessment Questionnaire (CAQ)	Description of measure in paper (with enough information that it could be replicated)
Q	20	31-item questionnaire	Published in study

Appendix O: *Journal of Personality Disorders* Author Guidelines

Journal of Personality Disorders

Instructions to Authors

Types of Articles

Regular Articles: Reports of original work should not normally exceed 30 pages[20] (typed, double-lined spaces, and with standard margins, including tables, figures, and references). Occasionally, an author may feel that he or she needs to exceed this length (e.g., a report of a series of studies, or a report that would benefit from more extensive technical detail). In these circumstances, an author may submit a lengthier manuscript, but the author should describe the rationale for a submission exceeding 30 pages in the cover letter accompanying the submission. This rationale will be taken into account by the Editors, as part of the review process, in determining if the increased length is justified.

Invited Essays and Special Articles: These articles provide an overview of broad-ranging areas of research and conceptual formulations dealing with substantive theoretical issues. Reports of large-scale definitive empirical studies may also be submitted. Articles should not exceed 40 pages including tables, figures, and references. Authors contemplating such an article are advised to contact the editor in advance to see whether the topic is appropriate and whether other articles in this topic are planned.

Brief Reports: Short descriptions of empirical studies not exceeding 20 pages in length including tables, figures, and references.

Web-Based Submissions: Manuscripts must be produced electronically using word processing software, double spaced, and submitted along with a cover letter to http://jpd.msubmit.net. Authors may choose blind or non-blind review. Please specify which option you are choosing in your cover letter. If you choose blind review, please prepare the manuscript accordingly (e.g., remove identifying information from the first page of the manuscript, etc.). All articles should be prepared in accordance with the Publication Manual of the American Psychological Association. They must be preceded by a brief abstract and adhere to APA referencing format.

Tables should be submitted in Excel. Tables formatted in Microsoft Word's Table function are also acceptable. (Tables should not be submitted using tabs, returns, or spaces as formatting tools.)

Figures must be submitted separately as graphic files (in order of preference: tif, eps, jpg, bmp, gif; note that PowerPoint is not acceptable) in the highest possible resolution. Figure caption text should be included in the article's Microsoft Word file. All figures must be readable in black and white.

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[20] Author note: The current empirical paper does not exceed 30 pages with standard margins.

Permissions: Contributors are responsible for obtaining permission from copyright owners if they use an illustration, table, or lengthy quote (100+ words) that has been published elsewhere. Contributors should write both the publisher and author of such material, requesting nonexclusive world rights in all languages for use in the article and in all future editions of it. Supplemental Materials: Supplemental materials will run online-only and should be no longer than the manuscript itself. If the material you wish to include is longer than the article, we will instead include a note that all supplemental material can be obtained, by request, from the author. Supplemental materials in the form of tables and figures must comply with the above table and figure instructions for the main article. Remember to include call-outs for all figures and tables within the supplemental material. All material will be peer-reviewed and copyedited.

References: Authors should consult the publication manual of the American Psychological Association for rules on format and style. All research papers submitted to the Journal of Personality Disorders must conform to the ethical standards of the American Psychological Association. Articles should be written in nonsexist language. **Any manuscripts with references that are incorrectly formatted will be returned by the publisher for revision.**

Sample References:

Davis, C. G., & McKearney, J. M. (2003). How do people grow from their experience with trauma or loss? Journal of Social & Clinical Psychology, 22(5), 477-492.

Dweck, C., & Wortman, C. (1982). Learned helplessness, anxiety and achievement. In H. Kron & L. Laux (Eds.), Achievement, stress, and anxiety (pp. 93-125). Washington, DC: Hemisphere Publishing Group.

Roelofs, J., Meesters, C., Ter Huurne, M., Bamelis, L., & Muris, P. (2006). On the links between attachment style, parental rearing behaviors, and internalizing and externalizing problems in nonclinical children. Journal of Child and Family Studies, 15, 331-344.

Appendix P: Mandatory Author Disclosure Statements

Appendix Q: Breakdown of Teams Approached

Table Q13

Breakdown of Teams Approached

Team approached	Advertised to the team via an email from the service's gatekeeper	Advertised directly to the team via a meeting	Approximate number of clinical staff per team
NSFT Communications	Yes	No	2700
Norwich South East Adult Recovery Team (NSFT)	Yes	Yes	20
Bury St Edmunds North Integrated Delivery Team Enhanced Community Pathway (NSFT)	Yes	Yes	25
Bury St Edmunds Inpatients (NSFT)	Yes		Unknown
Norwich Central North Adult Community Team (NSFT)	Yes	Yes	40
Norwich Early Intervention in Psychosis Team (NSFT)	Yes	Yes	Unknown
Bury St Edmunds North Integrated Delivery Team Youth (NSFT)	Yes	Yes	14
Adult Community Mental Health Team in Central Norfolk (City 1, City 2, City 3) (NSFT)	Yes	No	60
Bury St Edmunds South Integrated Delivery Team Enhanced Community Pathway (NSFT)	Yes	No	13
Bury St Edmunds South Integrated Delivery Team Youth (14-25) (NSFT)	Yes	No	13
Bury St Edmunds South Integrated Delivery Team Complexity in Later Life (NSFT)	Yes	No	12
Bury St Edmunds South Integrated Delivery Team ADHD (NSFT)	Yes	No	4
Bury St Edmunds South Integrated Delivery Team Adult pathway (NSFT)	Yes	No	14
Adult and ECP Pathways Central IDT (NSFT)	Yes	Yes	15
Youth and Early Intervention teams (NSFT)	Yes	No	40
Adult and ECP Ipswich IDT (NSFT)	Yes	Yes	22
Ipswich IDT (NSFT)	Yes	No	105
Central IDT (NSFT)	Yes	No	35
Huntingdon Adult Locality (CPFT)	Yes	Yes	30
Fenlands Adult PD pathway (CPFT)	Yes	Yes	19
Cambridge Personality Disorder Community Service (CPFT)	Yes	Yes	27
Cambridge Adult pathways North and South (CPFT)	Yes	No	60
Eating disorders Cambridge (CPFT)	Yes	No	10
Adult inpatients Cambridge (CPFT)	Yes	No	99

Appendix R: Document Demonstrating Ethical Approval from UEA

Faculty of Medicine and Health Sciences Research Ethics Committee

UEA

University of East Anglia

Harriet Darby
MED

Research & Innovation Services
loor 1, The Registry
University of East Anglia
Norwich Research Park
Norwich, NR4 7TJ

Email: fmh.ethics@uea.ac.uk

Web: www.uea.ac.uk/researchandenterprise

2.11.17

Dear Harriet,

Project Title: Personality disorder: can we reverse the stigma? A quantitative, vignette-based study investigating clinical staff members' attitudes towards individuals with a diagnosis of a personality disorder

Reference: 2017/18 - 14

The resubmission of your above proposal has been considered by the Faculty Research Ethics Committee at their meeting on (26/10/17) and we can confirm that your proposal has been approved.

Please could you ensure that any further amendments to either the protocol or documents submitted are notified to us in advance and also that any adverse events which occur during your project are reported to the Committee. Please could you also arrange to send us a report once your project is completed.

Yours sincerely,

Professor M J Wilkinson
Chair
FMH Research Ethics Committee

CC Peter Beazley

Appendix S: Document Demonstrating Ethical Approval from the Health Research Authority

NHS
Health Research Authority

Miss Harriet Darby
Trainee Clinical Psychologist
Cambridge and Peterborough NHS Foundation Trust
University of East Anglia
Norwich Medical School
Norwich Research Park, Norwich
NR4 7TJ

Email: hra.approval@nhs.net

25 January 2018

Dear Miss Darby,

Letter of HRA Approval

Study title:	**Personality disorder: can we reverse the stigma? A quantitative, vignette-based study investigating clinical staff members' attitudes towards individuals with a diagnosis of a borderline personality disorder.**
IRAS project ID:	**229975**
Sponsor	**University of East Anglia**

I am pleased to confirm that **HRA Approval** has been given for the above referenced study, on the basis described in the application form, protocol, supporting documentation and any clarifications noted in this letter.

Participation of NHS Organisations in England
The sponsor should now provide a copy of this letter to all participating NHS organisations in England.

Appendix B provides important information for sponsors and participating NHS organisations in England for arranging and confirming capacity and capability. **Please read *Appendix B* carefully**, in particular the following sections:

- *Participating NHS organisations in England* – this clarifies the types of participating organisations in the study and whether or not all organisations will be undertaking the same activities
- *Confirmation of capacity and capability* - this confirms whether or not each type of participating NHS organisation in England is expected to give formal confirmation of capacity and capability. Where formal confirmation is not expected, the section also provides details on the time limit given to participating organisations to opt out of the study, or request additional time, before their participation is assumed.
- *Allocation of responsibilities and rights are agreed and documented (4.1 of HRA assessment criteria)* - this provides detail on the form of agreement to be used in the study to confirm capacity and capability, where applicable.

Further information on funding, HR processes, and compliance with HRA criteria and standards is also provided.

IRAS project ID	229975

It is critical that you involve both the research management function (e.g. R&D office) supporting each organisation and the local research team (where there is one) in setting up your study. Contact details and further information about working with the research management function for each organisation can be accessed from the HRA website.

Appendices

The HRA Approval letter contains the following appendices:

- A – List of documents reviewed during HRA assessment
- B – Summary of HRA assessment

After HRA Approval

The document *"After Ethical Review – guidance for sponsors and investigators",* issued with your REC favourable opinion, gives detailed guidance on reporting expectations for studies, including:

- Registration of research
- Notifying amendments
- Notifying the end of the study

The HRA website also provides guidance on these topics, and is updated in the light of changes in reporting expectations or procedures.

In addition to the guidance in the above, please note the following:

- HRA Approval applies for the duration of your REC favourable opinion, unless otherwise notified in writing by the HRA.
- Substantial amendments should be submitted directly to the Research Ethics Committee, as detailed in the *After Ethical Review* document. Non-substantial amendments should be submitted for review by the HRA using the form provided on the HRA website, and emailed to hra.amendments@nhs.net.
- The HRA will categorise amendments (substantial and non-substantial) and issue confirmation of continued HRA Approval. Further details can be found on the HRA website.

Scope

HRA Approval provides an approval for research involving patients or staff in NHS organisations in England.

If your study involves NHS organisations in other countries in the UK, please contact the relevant national coordinating functions for support and advice. Further information can be found through IRAS.

If there are participating non-NHS organisations, local agreement should be obtained in accordance with the procedures of the local participating non-NHS organisation.

User Feedback

The Health Research Authority is continually striving to provide a high quality service to all applicants and sponsors. You are invited to give your view of the service you have received and the application

IRAS project ID	229975

procedure. If you wish to make your views known please use the feedback form available on the HRA website.

HRA Training
We are pleased to welcome researchers and research management staff at our training days – see details on the HRA website.

Your IRAS project ID is **229975**. Please quote this on all correspondence.

Yours sincerely

Thomas Fairman
HRA Assessor

Email: hra.approval@nhs.net

Copy to: Ms Tracy Moulton, UAE, (Sponsor Contact)
Dr Bonnie Teague, Norfolk and Suffolk NHS Foundation Trust,
(Lead NHS R&D Contact)

Appendix T: Letter Confirming Capacity and Capability from CPFT

Cambridgeshire and Peterborough NHS
NHS Foundation Trust

Understanding mental health, understanding people

Research and Development Department

R&D ref: M00869

Joint Research Office
Box 277
Addenbrooke's Hospital
Hills Road
Cambridge
CB2 0QQ

Miss Harriet Darby
Trainee Clinical Psychologist
CPFT
University of East Anglia
Norwich Medical School
Norwich
NR4 7TJ

Direct Dial: 01223 349234 ext 349234
E-mail: mary-beth.sherwood@cpft.nhs.uk
www.cpft.nhs.uk

01 March 2018

Dear Miss Harriet Darby

IRAS ID: 229975

Personality disorder: can we reverse the stigma? A quantitative, vignette-based study investigating clinical staff members' attitudes towards individuals with a diagnosis of a borderline personality disorder.

Thank you for sending details of the above named study.
The R&D department has received the HRA Approval letter and reviewed the study documents. The project has been allocated the internal R&D reference number of **M00869**. Please quote this in all future correspondence regarding this study.

Capacity and capability to conduct this study at Cambridgeshire & Peterborough NHS Foundation Trust is confirmed.

We would like to take this opportunity to remind you of your responsibilities under the terms of the Research Governance Framework for Researchers, Chief Investigators, Principal Investigators and Research Sponsors and to also of the requirement to notify R&D of any amendments or changes made to this study.

You will be aware that the Trust is subject to national reporting requirements for first patient recruitment within 70 days. Further details on this can be found on the NIHR website:
http://www.nihr.ac.uk/policy-and-standards/faster-easier-clinical-research.htm
If you have any questions or concerns about this, please contact me.

I wish you every success with this study.

Yours sincerely

Stephen Kelleher
Senior R&D Manager

Carbon Copy: (PI) Dr. Youngsuk Kim

HQ Elizabeth House, Fulbourn Hospital, Cambridge CB21 5EF
T 01223 726789 F 01480 398501 www.cpft.nhs.uk

In partnership with the University of Cambridge

INVESTORS IN PEOPLE
POSITIVE ABOUT DISABLED PEOPLE

Appendix U: Email Confirming Capacity and Capability from NSFT

Dear Harriet,

RE: IRAS 229975 - Confirmation of Capacity and Capability at NORFOLK AND SUFFOLK NHS FOUNDATION TRUST

Full Study Title: Personality disorder: can we reverse the stigma? A quantative, vignette-based study investigating clinical staff members' attitudes towards individuals with a diagnosis of a borderline personality disorder.

This email confirms that NORFOLK AND SUFFOLK NHS FOUNDATION TRUST has the capacity and capability to deliver the above referenced study.

Please find attached the authorised Statement of Activities form.

If you wish to discuss further, please do not hesitate to contact me.

Kind Regards
Tom

Tom Rhodes– Senior Research Facilitator
Norfolk and Suffolk NHS Foundation Trust
Research and Development, The Knowledge Centre
Hellesdon Hospital, Drayton High Road, Norwich, NR6 5BE

tom.rhodes@nsft.nhs.uk
01603 421552 (x6552)

Appendix V: 22 Semantic Differentials (Lewis & Appleby, 1988)

Please tick the box that corresponds to your position between the two statements. Do not spend too much time considering your response; just go with your gut reaction. Your responses will remain anonymous.

		1	2	3	4	5	6	
	Admission indicated							Admission not indicated
1	Not a suicide risk							Definite suicide risk*
	Antidepressants not indicated							Antidepressants indicated
2	Genuinely afraid of being out of hospital							Trying to manipulate admission
3	Does not require sick certificate							Needs sick certificate*
4	Needs regular follow-up							Discharge from outpatient follow up
	Not dependent of benzodiazepines							Dependent on benzodiazepines
5	Patient likely to arouse sympathy							Patient unlikely to arouse sympathy
6	Overdose would be attention seeking act							Overdose would be a genuine suicidal act*
7	Like to have patient in your clinic							Would not like to have patient in your clinic
	Psychotherapy not indicated							Psychotherapy referral indicated
8	Difficult management problem							Straightforward management problem*
9	Patient unlikely to annoy you							Patient likely to annoy you
10	Unlikely to improve							Likely to improve*
	Cause of debt beyond patients control							Cause of debt controllable by patient
11	This case merits considerable NHS time							This case does not merit NHS time
12	Patient likely to complete course of treatment if offered							Patient unlikely to complete course of treatment if offered
13	Patient does not have a mental illness							Patient has a mental illness*
14	Patient cannot help suicidal urges							Suicidal urges are under patient's control
15	Risk of patient becoming dependent on you							Patient not at risk of becoming dependent on you*
16	Patient likely to comply with advice/treatment							Patient unlikely to comply with advice/treatment
17	Please rate severity of condition; very severe							Not severe

Items highlighted in grey were removed for the current study.

*Items with backwards scoring.

Appendix W: Correspondence Demonstrating Permission to

Modify the 22 Semantic-Differentials

↩ Reply all | ⌄   🗑 Delete   Junk | ⌄   •••   ✕

RE: Use of 22-semantic differentials for assessing attitudes towards individuals with a personality disorder

LA   Louis Appleby <Louis.Appleby@manchester.ac.uk>   👍   ↩ Reply all | ⌄
          Fri 26/05, 14:24
          Harriet Darby (MED); Chartonas, Dimitrios <Dimitrios.Chartonas2@Candi.nhs.uk>; 'Lewis, G ⌄

Inbox

Dear Harriet

I'm happy for you to modify our questionnaire.

Hope the study goes well - the problem is still around.

Louis Appleby

Appendix X: Attitudes towards Personality Disorder Questionnaire (APDQ; Bowers & Allan, 2006)

Items modified to suit a vignette-based design.
On a scale of 1 to 6, how much do you agree with the following statements about Louise?
1 = least agreement
6 = most agreement

1	I like patients like Louise (factor 1)	1	2	3	4	5	6
2	I feel frustrated with patients like Louise* (factor 5)	1	2	3	4	5	6
3	I feel drained by patients like Louise* (factor 5)	1	2	3	4	5	6
4	I respect patients like Louise (factor 1)	1	2	3	4	5	6
5	I feel fondness and affection for patients like Louise (factor 1)	1	2	3	4	5	6
6	I feel vulnerable in patients like Louise's company* (factor 2)	1	2	3	4	5	6
7	I have a feeling of closeness with patients like Louise (factor 1)	1	2	3	4	5	6
8	I feel manipulated or used by patients like Louise* (factor 2)	1	2	3	4	5	6
9	I feel uncomfortable or uneasy with patients like Louise* (factor 2)	1	2	3	4	5	6
10	I feel I am wasting my time with patients like Louise* (factor 4)	1	2	3	4	5	6
11	I am excited to work with patients like Louise (factor 1)	1	2	3	4	5	6
12	I feel pessimistic about patients like Louise* (factor 4)	1	2	3	4	5	6
13	I feel resigned about patients like Louise* (factor 4)	1	2	3	4	5	6
14	I admire patients like Louise (factor 1)	1	2	3	4	5	6
15	I feel helpless in relation to patients like Louise* (factor 2)	1	2	3	4	5	6
16	I feel frightened of patients like Louise* (factor 2)	1	2	3	4	5	6
17	I feel angry toward patients like Louise* (factor 3)	1	2	3	4	5	6
18	I enjoy spending time with patients like Louise (factor 1)	1	2	3	4	5	6
19	Interacting with patients like Louise makes me shudder* (factor 3)	1	2	3	4	5	6
20	Patients like Louise make me feel irritated* (factor 3)	1	2	3	4	5	6
21	I feel warm and caring toward patients like Louise (factor 1)	1	2	3	4	5	6
22	I feel protective toward patients like Louise (factor 1)	1	2	3	4	5	6
23	I feel oppressed or dominated by patients like Louise* (factor 2)	1	2	3	4	5	6
24	I feel that patients like Louise are alien, other, strange* (factor 3)	1	2	3	4	5	6
25	I feel understanding toward patients like Louise (factor 1)	1	2	3	4	5	6

26	I feel powerless in the presence of patients like Louise* (factor 2)	1	2	3	4	5	6
27	I feel happy and content in patients like Louise's company (factor 1)	1	2	3	4	5	6
28	I feel outmanoeuvred by patients like Louise* (factor 2)	1	2	3	4	5	6
29	Caring for patients like Louise makes me feel satisfied and fulfilled (factor 1)	1	2	3	4	5	6
30	I feel exploited by patients like Louise* (factor 2)	1	2	3	4	5	6
31	I feel patient when caring for patients like Louise (factor 1)	1	2	3	4	5	6
32	I feel able to help patients like Louise (factor 1)	1	2	3	4	5	6
33	I feel interested in patients like Louise (factor 1)	1	2	3	4	5	6
34	I feel unable to gain control of the situation with patients like Louise* (factor 2)	1	2	3	4	5	6
35	I feel intolerant. I have difficulty in tolerating patients like Louise's behaviour* (factor 3)	1	2	3	4	5	6

*Items with backwards scoring.

Appendix Y: Correspondence Demonstrating Permission to Modify the Attitudes to Personality Disorder Questionnaire

Bowers, Leonard <len.bowers@kcl.ac.uk>
Sat 27/05, 09:22

Hi Harriet.

The scale is free for use, so you can do what you want with it. However if you change it you cannot rely on the established reliability and validity information.

Interestingly my first idea for such a scale was to get nurses to rate individual patients so that large amounts of data were generated that could be linked to behaviour and outcomes, but this proved far too unwieldy as a research strategy.

Good luck with you project and career.

Len

Len   1 of 4

Appendix Z: Causal Attribution Scale Measure[21]

You are now going to be presented with some events involving Louise that have taken place recently. You will be asked to think of what might be the main cause of this behaviour and then complete some ratings for this cause. If you are not sure about the cause, please write the first possibility you think of.

Scenario 1: Louise was verbally aggressive and physically violent towards another patient within the service.

What do you think is the main cause of Louise's behaviour? (Please explain briefly in your own words in the textbox below)

This cause is something internal to Louise	1	2	3	4	5	6	7	This cause is something external to Louise
This cause means the same thing would happen in a similar occurring event	1	2	3	4	5	6	7	This cause means the same thing would not happen in a similar occurring event
This cause will influence how the individual behaves in other events	1	2	3	4	5	6	7	This cause will not influence how the individual behaved in other events
Louise is in control of this cause	1	2	3	4	5	6	7	Louise is not in control of this cause
Louise is in control of this event	1	2	3	4	5	6	7	Louise is not in control of this event

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[21] Author note: all scores were reversed to bring the scoring in line with the scoring system utilised by Markham and Trower (2003).

When in in-patient services for assessment Louise set off the fire alarm when there was no indication of a fire.

Scenario 2: What do you think the main cause of this behaviour is?

What do you think is the main cause of Louise's behaviour? (Please explain briefly in your own words in the textbox below)

This cause is something internal to Louise	1	2	3	4	5	6	7	This cause is something external to Louise
This cause means the same thing would happen in a similar occurring event	1	2	3	4	5	6	7	This cause means the same thing would not happen in a similar occurring event
This cause will influence how the individual behaves in other events	1	2	3	4	5	6	7	This cause will not influence how the individual behaved in other events
Louise is in control of this cause	1	2	3	4	5	6	7	Louise is not in control of this cause
Louise is in control of this event	1	2	3	4	5	6	7	Louise is not in control of this event

Scenario 3: Louise used a razor blade to cut her arms.

What do you think the main cause of Louise's behaviour is?

What do you think is the main cause of Louise's behaviour? (Please explain briefly in your own words in the textbox below)

This cause is something internal to Louise	1	2	3	4	5	6	7	This cause is something external to Louise
This cause means the same thing would happen in a similar occurring event	1	2	3	4	5	6	7	This cause means the same thing would not happen in a similar occurring event
This cause will influence how the individual behaves in other events	1	2	3	4	5	6	7	This cause will not influence how the individual behaved in other events
Louise is in control of this cause	1	2	3	4	5	6	7	Louise is not in control of this cause
Louise is in control of this event	1	2	3	4	5	6	7	Louise is not in control of this event

Scenario 4: Louise did not attend a meeting that had been arranged to discuss her care.

What do you think the main cause of Louise's behaviour is?

What do you think is the main cause of Louise's behaviour? (Please explain briefly in your own words in the textbox below)

This cause is something internal to Louise	1	2	3	4	5	6	7	This cause is something external to Louise
This cause means the same thing would happen in a similar occurring event	1	2	3	4	5	6	7	This cause means the same thing would not happen in a similar occurring event
This cause will influence how the individual behaves in other events	1	2	3	4	5	6	7	This cause will not influence how the individual behaved in other events
Louise is in control of this cause	1	2	3	4	5	6	7	Louise is not in control of this cause
Louise is in control of this event	1	2	3	4	5	6	7	Louise is not in control of this event

Scenario 5: Louise threatened to kill herself when her care co-ordinator said she was leaving the service.

What do you think the main cause of Louise's behaviour is?

What do you think is the main cause of Louise's behaviour? (Please explain briefly in your own words in the textbox below)

This cause is something internal to Louise	1	2	3	4	5	6	7	This cause is something external to Louise
This cause means the same thing would happen in a similar occurring event	1	2	3	4	5	6	7	This cause means the same thing would not happen in a similar occurring event
This cause will influence how the individual behaves in other events	1	2	3	4	5	6	7	This cause will not influence how the individual behaved in other events
Louise is in control of this cause	1	2	3	4	5	6	7	Louise is not in control of this cause
Louise is in control of this event	1	2	3	4	5	6	7	Louise is not in control of this event

Appendix AA: Vignettes

Vignette 1

Louise is a 30 year old female with a previous diagnosis of Borderline Personality Disorder (also known as Emotionally Unstable Personality Disorder). Louise has presented at A&E 5 times over the past year due to experiencing thoughts of suicide and self-harming behaviours (cutting herself, banging her head, burning herself). Louise sometimes thinks about possible ways in which she could take her life, and has attempted to do so 3 times in the past: Louise attempted to strangle herself with a shoelace at the age of 18 and took an overdose on two occasions when in her early twenties.

Louise has been admitted to inpatient services four times over the past 5 years. Louise's most recent admission occurred 6 weeks ago. She was sectioned and required medical attention for her self-inflicted injuries, and her injuries have left considerable scarring to her arms and legs.

Louise's parents live close by but she does not have a very good relationship with them. Louise has found it difficult to keep any friends and sometimes acts violently towards other people. Louise's self-harming behaviours started in her adolescent years alone with other impulsive behaviours such as drug taking and sexual promiscuity. Louise has had partners in the past, but is not currently in a relationship.

Vignette 2

Louise is a 30 year old female with a previous diagnosis of aBorderline Personality Disorder (also known as Emotionally Unstable Personality Disorder). Louise has presented at A&E 5 times over the past year due to experiencing thoughts of suicide and self-harming behaviours (cutting herself, banging her head, burning herself). Louise sometimes thinks about possible ways in which she could take her life, and has attempted to do so 3 times in the past: Louise attempted to strangle herself with a shoelace at the age of 18 and took an overdose on two occasions when in her early twenties.

Louise has been admitted to inpatient services four times over the past 5 years. Louise's most recent admission occurred 6 weeks ago. She was sectioned and required medical attention for her self-inflicted injuries, and her injuries have left considerable scarring to her arms and legs.

Louise's parents live close by but she does not have a very good relationship with them. Louise has found it difficult to keep any friends and sometimes acts violently towards other people. Louise's self-harming behaviours started in her adolescent years alone with other impulsive behaviours such as drug taking and sexual promiscuity. Louise has had partners in the past, but is not currently in a relationship.

Predisposing factors

Louise experienced sexual abuse between the ages of 5 and 10 from a family friend. When she attempted to tell her parents at the age of 12 she was not believed. This has always been difficult for Louise to accept, and she often feels rejected by her parents.

Louise experienced a series of difficult relationships in her teenage years, including an abusive relationship which included a series of sexual and physical assaults. Louise therefore views the world as a dangerous place and Louise looks to others for support and reassurance in order to help her feel secure and help her to regulate her emotions.

Precipitating factors (triggers to Louise's behaviours)

When Louise does not feel reassured and supported enough within a relationship this can trigger an emotional reaction and impulsive behaviour. For example, when Louise's friend was unable to meet her for a drink due to having other commitments this triggered Louise's feelings of rejection and abandonment, resulting in her self-harming and going to A&E.

Perpetuating factors (factors that maintain Louise's behaviours)

Louise's perceived feelings of abandonment and rejection often lead to extreme and impulsive behaviours that often lead to further difficulties within her relationships. For example Louise's previous partner moved out of their shared rented flat due to finding it difficult to cope with Louise's impulsive behaviours.

Louise's impulsive behaviours, such as violence, promiscuous sex and drug taking are maintained by her difficulties with regulating her emotions as she responds rapidly and impulsively to how she is feeling. Louise's difficulties with self-harm are maintained by the feeling of care and support she gets from professionals when she presents herself at A&E.

Appendix BB: Full Breakdown of Job Titles of Participants

Table BB14. *Full Breakdown of Job Titles of Participants*

Job Title	Number of Participants
Nurses	39
Support Practitioners	36
Clinical Psychologists	12
Assistant Psychologists	12
Social Workers	9
Therapists	6
Trainee Clinical Psychologists	4
Clinical Team Leaders	4
Case Managers	4
Occupational Therapists	3
Consultant Clinical Psychologists	2
Consultant Psychiatrists	2
Doctors	2
Psychiatrists	1
GP Trainees	1
Ward Managers	1
Student Nurse	1
Student Social Worker	1
Practice Education Facilitator	1
Total	**141**

Appendix CC: Comparison of Current Sample to Chartonas at al.'s (2017) Sample

Table CC15

Comparison of Current Sample to Chartonas et al.'s (2017) Sample

	Sematic differential	Chartonas et al. (2017) (n=38)		Current study (Formulation + Non-formulation) (n=141)		Mean Difference	Standard Error Difference	t-test comparison	Confidence Intervals (95%)
		Mean	Standard Deviation	Mean	Standard Deviation				
1	Not a suicide risk (reverse scored)*	3.00	0.99	2.49	1.08	0.51	0.19	$t(177) = 2.63, p=0.009$	0.13, 0.89
2	Genuinely afraid of being out of hospital	2.68	1.32	2.50	0.90	0.18	0.18	$t(47) = 0.79, p=0.432$ (equal variances not assumed)	-0.27, 0.63
3	Does not require a sick certificate (reverse scored)*	3.08	1.51	2.46	1.30	0.62	0.25	$t(177) =2.52, p=0.013$	0.14, 1.10
4	Needs regular follow-up	1.82	0.93	2.16	1.29	-0.34	0.19	$t(80) = -1.83, p=0.071$ (equal variance not assumed)	-0.70, 0.02
5	Patient likely to arouse sympathy	3.08	1.36	3.60	1.42	-0.52	0.26	$t(177) = -2.02, p=0.045$	-1.02, -0.02
6	Overdose would be attention seeking act (reverse scored)*	3.64	1.35	2.94	1.09	0.70	0.24	$t(51) =2.95, p=0.005$ (equal variances not assumed)	0.24, 1.17
7	Like to have patient in your clinic	3.36	1.55	3.00	1.40	0.36	0.26	$t(177) = 1.38, p=0.171$	-0.15, 0.87
8	Difficult management problem (reverse scored)	4.20	1.30	4.57	1.31	-0.37	0.24	$t(177)= -1.55, p=0.123$	-0.84, 0.10
9	Patient unlikely to annoy you*	3.64	1.48	2.98	1.31	0.66	0.25	$t(177) = 2.68, p=0.008$	0.18, 1.14
10	Unlikely to improve (reverse scored)*	3.64	1.48	2.89	1.16	075	0.26	$t(50)= 2.89, p=0.006$ (equal variances not assumed)	0.24, 1.26
11	The case merits considerable NHS time*	2.97	1.06	2.05	1.01	0.92	0.19	$t(177) = 4.93, p<0.000$	0.55, 1.29
12	Patient likely to complete course of treatment if offered	3.95	1.23	3.52	1.14	0.43	0.21	$t(177)=2.03, p=0.044$	0.02, 0.85
13	Patient does not have a mental illness (reverse scored)*	3.00	1.57	2.13	1.41	0.87	0.26	$t(177)=3.29, p=0.001$	0.35, 1.39
14	Patient cannot help suicidal urges	2.64	1.40	2.38	1.09	0.26	0.25	$t(50) =1.06, p=0.294$ (equal variances not assumed)	-022, 0.74
15	Risk of patient becoming dependent on you (reverse scored)	4.72	0.79	4.88	1.00	-0.16	0.15	$t(72)= -1.04, p=0.300$ (equal variances not assumed)	-0.46, 0.14
16	Patient likely to comply with advice/treatment	3.56	1.27	3.59	1.08	-0.03	0.21	$t(177) = -0.15, p=0.884$	-0.43, 0.37
17	Severity of condition: severe*	3.54	0.91	2.28	0.90	1.26	0.17	$t(177)=7.64, p<0.000$	0.94, 1.58

*A significant difference in the means with the participants in the current study showing less rejecting attitudes.
Holm correction method applied (Holm, 1979).

Appendix DD: Comparison of Current Sample to Sample of Multidisciplinary Acute Psychiatric Staff (Bowers & Allan, 2006)

Table DD16

Comparison of Current Sample to Sample of Multidisciplinary Acute Psychiatric Staff

	Multidisciplinary acute psychiatric staff (n=51)		Current study (n=141)		Mean Difference	Standard Error Difference	t-tests to compare means	Confidence Intervals (95%)
	Mean	Standard Deviation	Mean[22]	Standard Deviation				
Factor 1: Enjoyment*	3.04	0.65	3.84	0.82	-0.80	0.11	$t(111) = -7.00, p<0.000$ (equal variances not assumed)	-1.02, -0.58
Factor 2: Security	4.51	0.64	4.69	0.68	-0.18	0.11	$t(190) = -1.65, p=0.10$	-0.39, 0.03
Factor 3: Acceptance*	4.78	0.67	5.22	0.58	-0.44	0.10	$t(190)= -4.45, p<0.000$	-0.63, -0.25
Factor 4: Purpose*	4.05	0.87	4.62	0.86	-0.57	0.14	$t(190)= -4.04, p<0.000$	-0.85, -0.29
Factor 5: Enthusiasm	3.45	0.90	3.67	0.89	-0.22	0.15	$t(190)=-1.51, p=0.133$	-0.51, 0.07

*A significant difference in the means with the participants in the current study showing more positive attitudes.
Holm correction method applied (Holm, 1979).

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[22] Current study means and standard deviations have been divided by the number of items in the factor to scale them for comparison with Bowers and Allan's study

Appendix EE: Comparison of Current Sample to Sample of Nurses in High Security Hospitals (Bowers & Allan, 2006)

Table EE17

Comparison of Current Sample to Sample of Nurses in High Security Hospitals

	Nurses in high security hospitals (n=645)		Current study (n=141)		Mean Difference	Standard Error Difference	t-tests to compare means	Confidence Intervals (95%)
	Mean	Standard Deviation	Mean	Standard Deviation				
Factor 1: Enjoyment*	2.64	0.78	3.84	0.82	-1.20	0.07	$t(784)=-16.40, p<0.000$	-1.34, -1.06
Factor 2: Security	4.66	0.76	4.69	0.68	-0.03	0.07	$t(784)=-0.43, p=0.666$	-0.17, 0.11
Factor 3: Acceptance*	4.54	0.84	5.22	0.58	-0.68	0.06	$t(284)=-11.53, p<0.000$ (equal variances not assumed)	-0.80, -0.56
Factor 4: Purpose*	3.79	1.05	4.62	0.86	-0.83	0.08	$t(240)=-9.95, p<0.000$ (equal variances not assumed)	-0.99, -0.67
Factor 5: Enthusiasm*	3.45	1.05	3.67	0.89	-0.22	0.08	$t(233)=-2.57, p=0.011$ (equal variances not assumed)	-0.39, -0.05

*A significant difference in the means with the participants in the current study showing more positive attitudes.
Holm correction method applied (Holm, 1979).

Appendix FF: Comparison of Current Sample to Sample of Prison Officers in Dangerous and Severe Personality Disorder Units (Bowers & Allan, 2006)

Table FF18

Comparison of Current Sample to Sample of Prison Officers in Dangerous and Severe Personality Disorder Units

	Prison Officers in Dangerous and Severe Personality Disorder Units (n=73)		Current study (n=141)		Mean Difference	Standard Error Difference	t-tests to compare means	Confidence Intervals (95%)
	Mean	Standard Deviation	Mean[23]	Standard Deviation				
Factor 1: Enjoyment*	3.07	0.58	3.84	0.82	-0.77	0.10	$t(192)=-7.15$, $p<0.000$ (equal variances not assumed)	-0.96, -0.58
Factor 2: Security**	5.14	0.46	4.69	0.68	0.45	0.08	$t(197)=5.73$, $p<0.000$ (equal variances not assumed)	0.30, 0.60
Factor 3: Acceptance	5.18	0.54	5.22	0.58	-0.04	0.08	$t(212)=-0.49$, $p=0.625$	-0.20, 0.12
Factor 4: Purpose	4.66	0.68	4.62	0.86	0.04	0.11	$t(178)=0.37$, $p=0.711$ (equal variances not assumed)	-0.17, 0.25
Factor 5: Enthusiasm**	4.01	0.68	3.67	0.89	0.34	0.11	$t(183)=3.11$, $p=0.002$ (equal variances not assumed)	0.13, 0.55

*A significant difference in the means with the participants in the current study showing more positive attitudes.
**A significant difference in the means with the participants in the current study showing more rejecting attitudes.
Holm correction method applied (Holm, 1979).

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[23] Current study means and standard deviations have been divided by the number of items in the factor to scale them for comparison with Bowers and Allan's study.

Appendix GG: Comparison of Current Sample to Sample of Student Psychiatric Nurses (Bowers & Allan, 2006)

Table GG19

Comparison of Current Sample to Sample of Student Psychiatric Nurses

	Student psychiatric nurses (n=106)		Current study (n=141)		Mean Difference	Standard Error Difference	t-tests to compare means	Confidence Intervals (95%)
	Mean	Standard Deviation	Mean[24]	Standard Deviation				
Factor 1: Enjoyment*	3.15	0.88	3.84	0.82	-0.69	0.11	$t(245)=-6.28$, $p=<0.000$	-0.90, -0.48
Factor 2: Security*	4.35	0.87	4.69	0.68	-0.34	0.10	$t(193)=-3.33$, $p=0.001$ (equal variances not assumed)	-0.54, -0.14
Factor 3: Acceptance*	4.71	1.00	5.22	0.58	-0.51	0.11	$t(157)=-4.69$, $p<0.000$ (equal variances not assumed)	-0.72, -0.30
Factor 4: Purpose	4.47	1.10	4.62	0.86	-0.15	0.13	$t(193)=-1.16$, $p=0.247$ (equal variances not assumed)	-0.40, 0.10
Factor 5: Enthusiasm	3.66	1.07	3.67	0.89	-0.01	0.13	$t(202)=-0.08$, $p=0.938$ (equal variances not assumed)	-0.26, 0.24

*A significant difference in the means with the participants in the current study showing more positive attitudes.
Holm correction method applied (Holm, 1979).

[24] Current study means and standard deviations have been divided by the number of items in the factor to scale them for comparison with Bowers and Allan's study.

Appendix HH: Comparison of Current Sample Causal Attributions to Previous Sample (Markham & Trower, 2003)

Table HH20

Comparison of Current Sample Causal Attributions to Previous Sample

	Markham and Trower, Causal attributions (n=48)		Current study (n=141)		Mean Difference	Standard Error Difference	t-tests to compare means	Confidence Intervals (95%)
	Mean[25]	Standard Deviation	Mean	Standard Deviation				
Internality	27.8	4.8	28.08	8.64	-0.28	1.01	$t(148)=-0.28, p=0.781$ (equal variances not assumed)	-2.25. 1.69
Stability	30.4	4.5	28.88	7.98	1.52	0.94	$t(146)=1.63, p=0.106$ (equal variances not assumed)	-0.31, 3.35
Globaility	31.5	5.0	30.72	8.16	0.78	1.00	$t(134)=0.78, p=0.435$ (equal variances not assumed)	-1.17, 2.73
Controllability (Cause)*	22.9	4.7	19.38	8.88	3.52	1.01	$t(154)=3.49, p=0.001$ (equal variances not assumed)	1.54, 5.50
Controllability (Event)*	25.5	5.1	20.88	8.46	4.62	1.02	$t(136)=4.51, p<0.000$ (equal variances not assumed)	2.61, 6.63

*A significant difference demonstrating participants in Markham and Trower's study believe the participant to have greater control of both the cause and event.
Holm correction method applied (Holm, 1979).

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[25]Mean and Standard Deviation only reported by Markham and Trower (2003) to one decimal place.

Appendix II: T-test to Compare Measures when Specialist Personality Disorder Service Participants are Removed from the Sample

Table II21

T-test to Compare Measures when Specialist Personality Disorder Service Participants are Removed from the Sample

	Formulation (n=64)		Non-Formulation (n=67)		Mean Difference	Standard Error Difference	t-test	Confidence Intervals (95%)
	Mean	Standard Deviation	Mean	Standard Deviation				
Semantic Differentials Factor1	32.78	5.18	33.79	6.70	1.01	1.05	$t(129)=0.96, p=0.338$	-1.07, 3.09
APDQ Total	153.80	18.72	148.09	23.30	-5.71	3.70	$t(129)=-1.54, p=0.126$	-13.03, 1.62
APDQ Factor 1	59.34	12.30	55.03	11.79	-4.31	2.11	$t(129)=-2.05, p=0.042$	-8.48, -0.15
APDQ Factor 2	46.84	5.61	46.49	7.75	-0.35	1.19	$t(129)=-0.30, p=0.768$	-2.70, 2.00
APDQ Factor 3	26.30	2.56	25.87	3.21	-0.43	0.51	$t(129)=-0.85, p=0.398$	-1.44, 0.58
APDQ Factor 4	14.00	1.99	13.54	3.01	-0.46	0.45	$t(115)=-1.04, p=0.299$ Equal variances not assumed	-1.35, 0.42
APDQ Factor 5	7.31	1.65	7.16	1.81	-0.15	0.30	$t(129)=-0.49, p=0.626$	-0.75, 0.45
Causal Attribution Internality	26.55	4.82	24.93	5.38	-1.62	0.89	$t(129)=-1.82, p=0.072$	-3.39, 0.15
Causal Attribution Stability*	26.44	4.30	24.55	5.14	-1.89	0.83	$t(129)=-2.27, p=0.025$	-3.53, -0.24
Causal Attribution Globaility	27.06	4.52	25.54	5.24	-1.53	0.86	$t(129)=-1.78, p=0.077$	-3.22, 0.17
Causal Attribution Controllability (Cause)	21.98	6.67	21.28	5.99	-0.70	1.11	$t(129)=-0.63, p=0.528$	-2.89, 1.49
Causal Attribution Controllability (Event)	20.03	5.58	22.06	6.33	2.03	1.04	$t(129)=1.94, p=0.054$	-0.04, 4.09

*Indicates a significant difference between the two samples.
Holm correction method applied (Holm, 1979).

Appendix JJ: T-test to Compare Measures when Clinical Psychologists are Removed from the Sample

Table JJ22

T-test to Compare Measures when Clinical Psychologists are Removed from the Sample

	Formulation (n=58)		Non-Formulation (n=65)		Mean Difference	Standard Error Difference	T-Test	Confidence Intervals (95%)
	Mean	Standard Deviation	Mean	Standard Deviation				
Semantic Differentials Factor1	32.81	5.31	33.83	6.48	1.02	1.08	$t(121)=0.95, p=0.339$	-1.11, 3.15
APDQ Total	154.90	19.54	149.52	23.69	-5.37	3.94	$t(121)=-1.36, p=0.175$	-13.18, 2.43
APDQ Factor 1	59.14	12.60	55.82	12.45	-3.32	2.26	$t(121)=-1.47, p=0.144$	-7.80, 1.16
APDQ Factor 2	47.45	5.92	46.86	7.64	-0.59	1.24	$t(121)=-0.47, p=0.638$	-3.05, 1.88
APDQ Factor 3	26.43	2.62	25.98	3.17	-0.45	0.53	$t(121)=-0.85, p=0.399$	-1.49, 0.60
APDQ Factor 4	14.34	2.17	13.51	2.95	-0.84	0.46	$t(116)=-1.81, p=0.074$ equal variances not assumed	-1.76, 0.08
APDQ Factor 5	7.53	1.89	7.35	1.76	-0.18	0.33	$t(121)=-0.55, p=0.584$	-0.83, 0.47
Causal Attribution Internality	27.24	4.82	25.03	5.16	-2.21	0.90	$t(121)=-2.45, p=0.016$	-4.00, -0.42
Causal Attribution Stability*	26.69	4.65	24.35	5.21	-2.34	0.89	$t(121)=-2.61, p=0.010$	-4.11, -0.57
Causal Attribution Globaility	27.24	4.93	25.18	5.20	-2.06	0.92	$t(121)=-2.24, p=0.027$	-3.87, -0.24
Causal Attribution Controllability (Cause)	21.83	7.11	21.20	5.72	-0.63	1.16	$t(121)=-0.52, p=0.589$	-2.92, 1.67
Causal Attribution Controllability (Event)	20.21	5.89	22.22	5.85	2.01	1.06	$t(121)=1.89, p=0.061$	-0.09, 4.11

*Indicates a significant difference between the two samples.
Holm correction method applied (Holm, 1979).

Appendix KK: T-test to Compare Measures when Specialist Personality Disorder Training Participants are Removed from the Sample

Table KK23

T-test to Compare Measures when Specialist Personality Disorder Training Participants are Removed from the Sample

	Formulation (n=42)		Non-Formulation (n=42)		Mean Difference	Standard Error Difference	T-Test	Confidence Intervals (95%)
	Mean	Standard Deviation	Mean	Standard Deviation				
Semantic Differentials Factor1	32.79	4.81	33.36	6.87	0.57	1.29	*t*(82)=0.44, *p*=0.660	-2.00, 3.15
APDQ Total	153.81	19.31	150.57	23.86	-3.24	4.74	*t*(82)=-0.68, *p*=0.496	-12.66, 6.18
APDQ Factor 1	59.12	12.19	55.71	12.49	-3.41	2.69	*t*(82)=-1.26, *p*=0.210	-8.76, 1.95
APDQ Factor 2	46.90	5.86	47.00	7.90	0.10	1.52	*t*(82)=0.06, *p*=0.950	-2.92, 3.11
APDQ Factor 3	26.19	2.51	26.62	3.05	0.43	0.61	*t*(82)=0.76, *p*=0.484	-0.79, 1.64
APDQ Factor 4	14.17	2.19	13.88	3.05	-0.29	0.58	*t*(74)=-0.49, *p*=0.623 equal variances not assumed	-1.44, 0.87
APDQ Factor 5	7.43	2.00	7.36	1.96	-0.07	0.43	*t*(82)=-0.17, *p*=0.869	-0.93, 0.79
Causal Attribution Internality	26.69	4.98	24.90	5.10	-1.79	1.10	*t*(82)=-1.62, *p*=0.108	-3.97, 0.40
Causal Attribution Stability	26.07	4.51	24.17	5.09	-1.91	1.05	*t*(82)=-1.81, *p*=0.073	-3.99, 0.18
Causal Attribution Globaility	26.55	4.74	24.52	5.21	-2.02	1.09	*t*(82)=-1.86, *p*=0.066	-4.19, 0.14
Causal Attribution Controllability (Cause)	20.93	6.86	21.24	6.20	0.31	1.43	*t*(82)=0.22, *p*=0.829	-2.53, 3.15
Causal Attribution Controllability (Event)	20.81	5.65	22.19	6.25	1.38	1.30	*t*(82)=1.06, *p*=0.291	-1.21, 3.97

Appendix LL: Boxplots for Each Measure within Each Group

Semantic Differentials (factor 1)
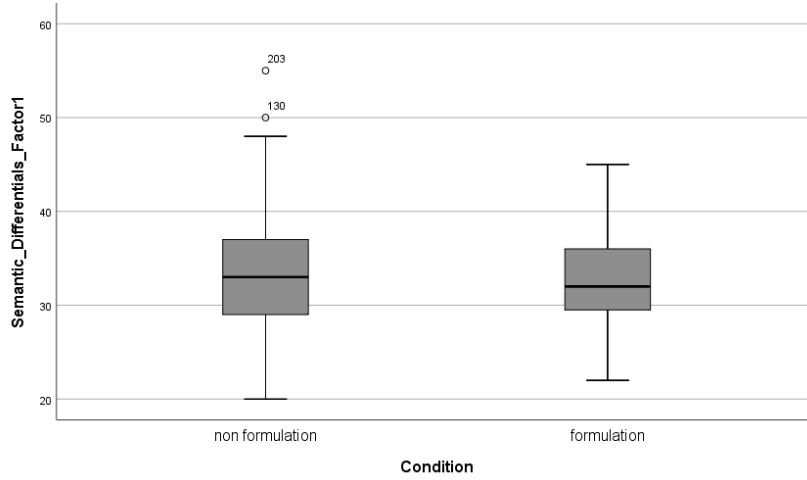
APDQ (total)
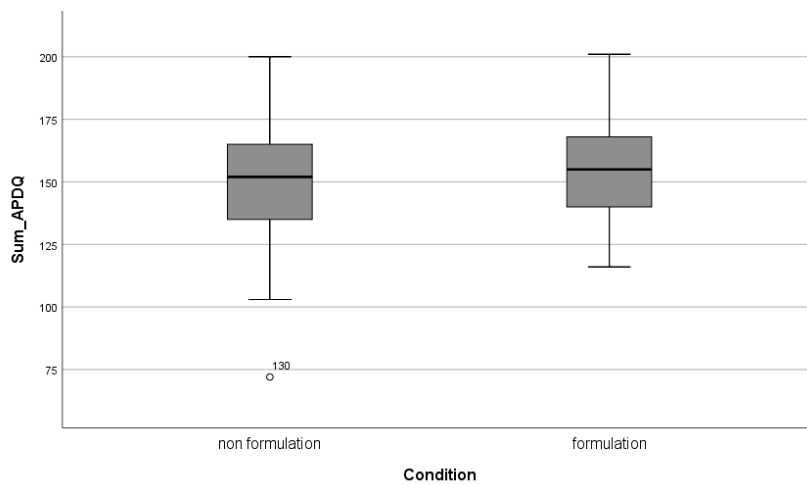
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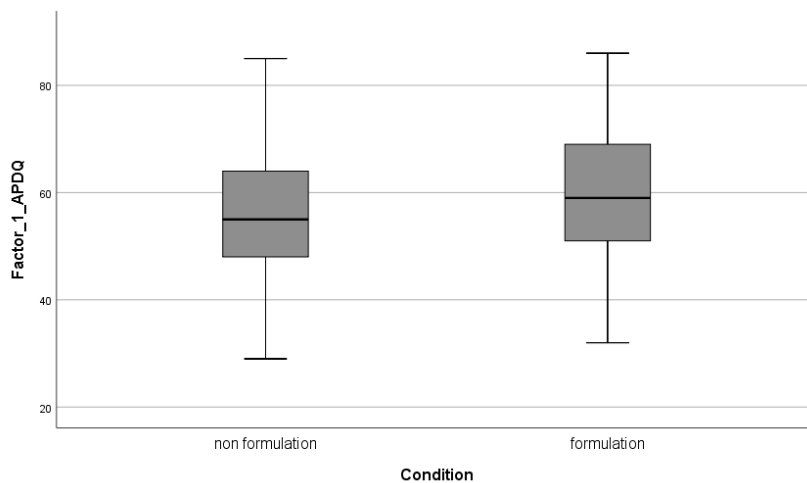
APDQ (factor 2)
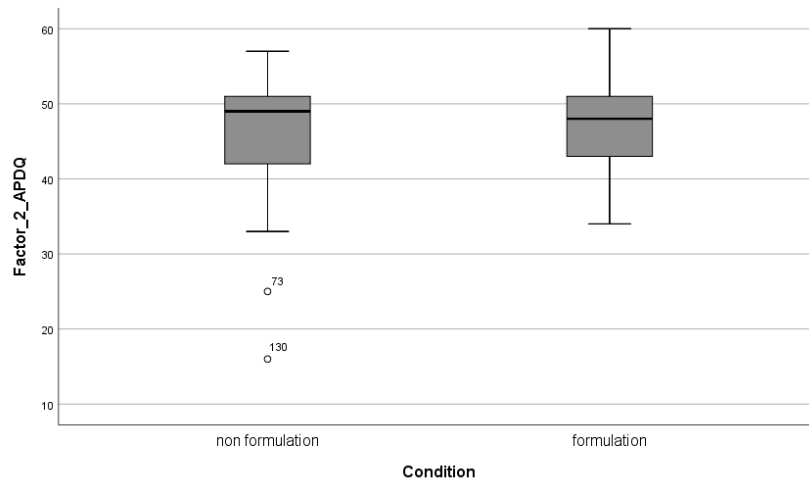
APDQ (factor 3)
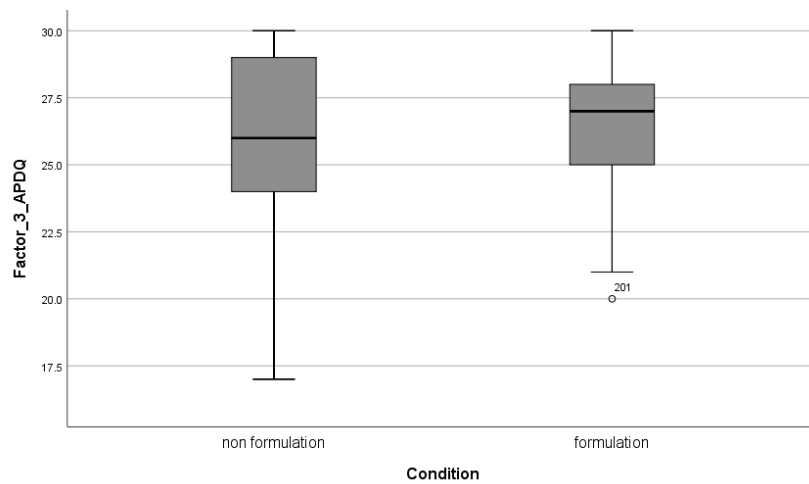
APDQ (factor 4)
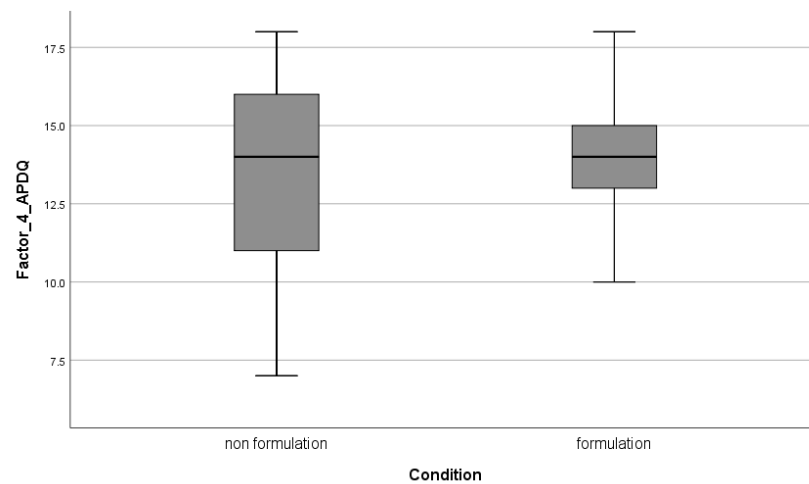
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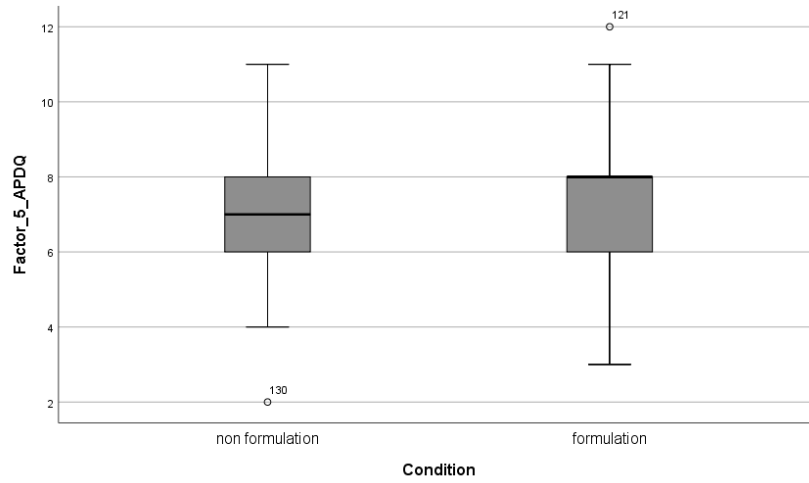
Causal Attribution Scale (internality)
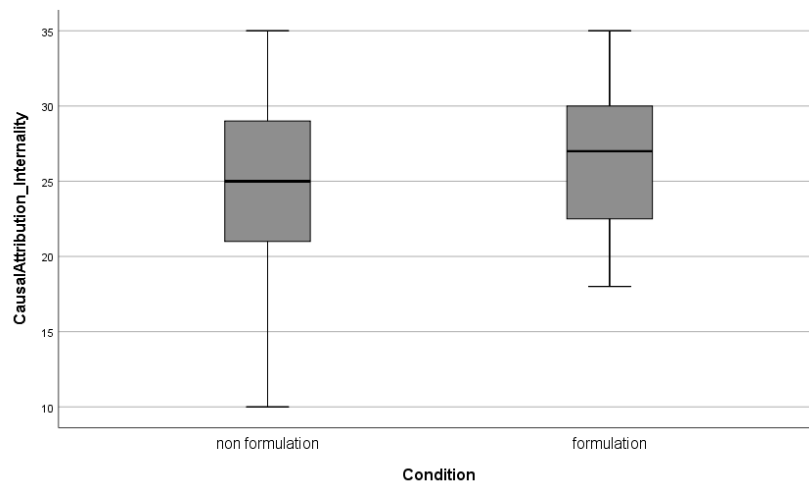
Causal Attribution Scale (stability)
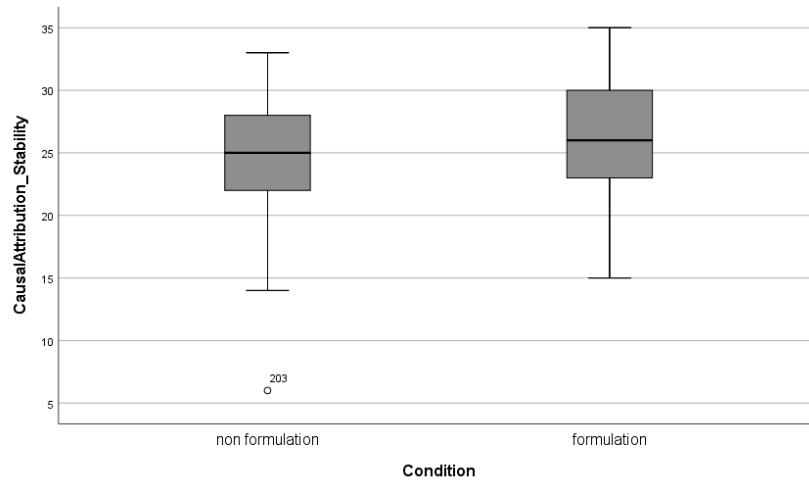
Causal Attribution Scale (globality)
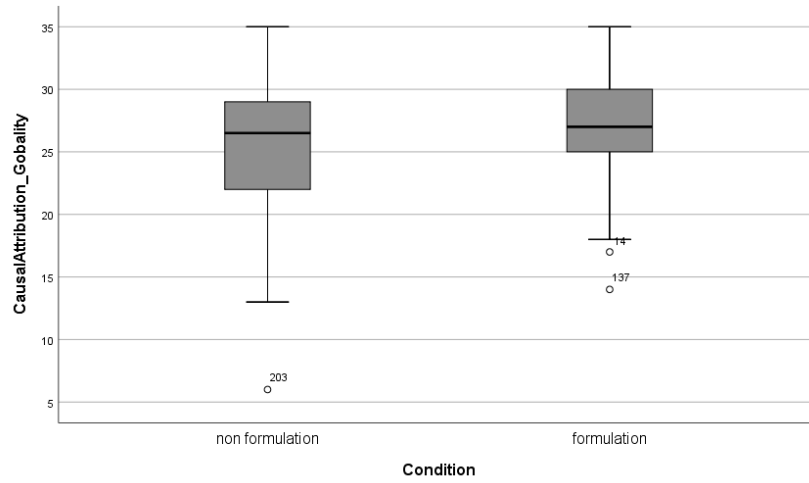
Causal Attribution Scale (controllability, cause)
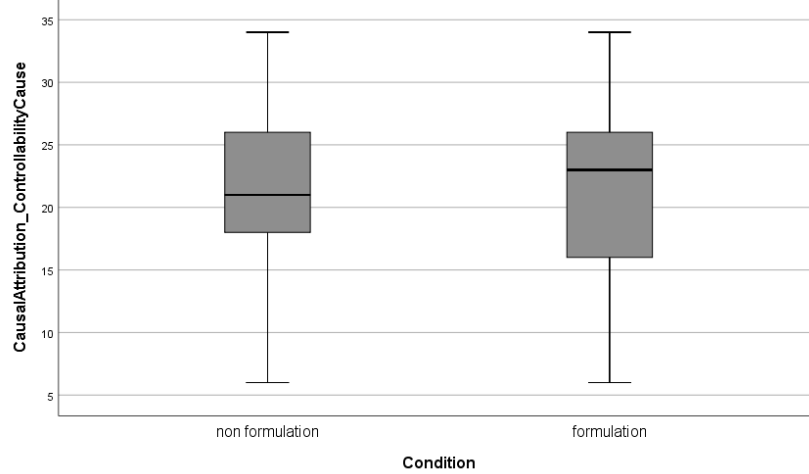
Causal Attribution Scale (controllability, event)
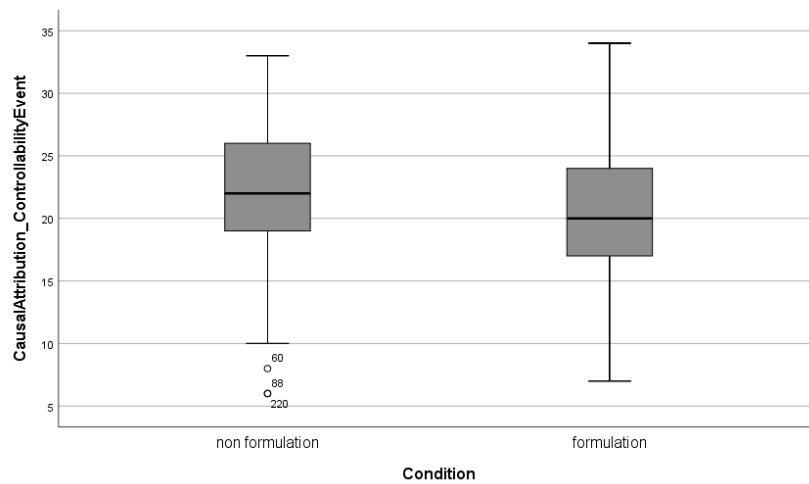
Appendix MM: Histograms for Each Measure within Each Group

Semantic Differentials (factor 1): Formulation Group
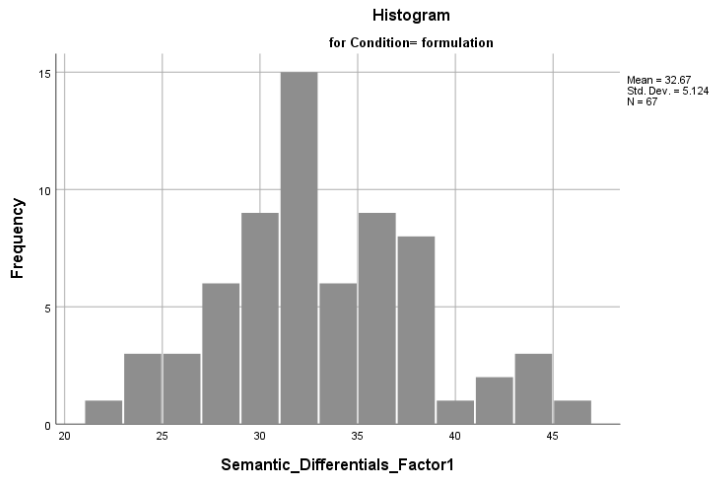
Semantic Differentials (factor 1): Non-formulation Group
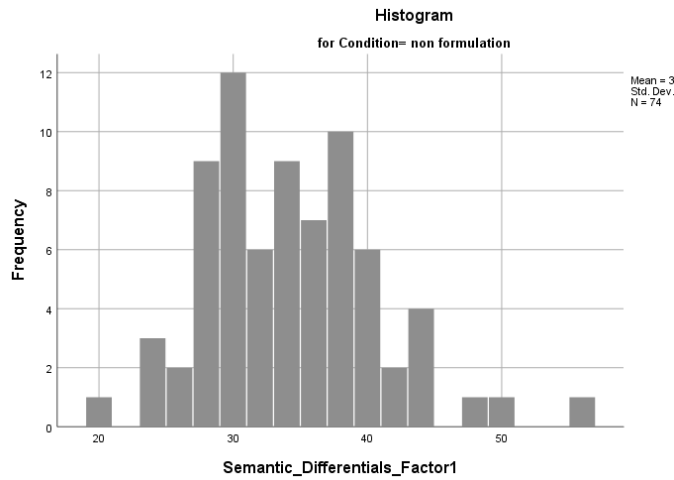
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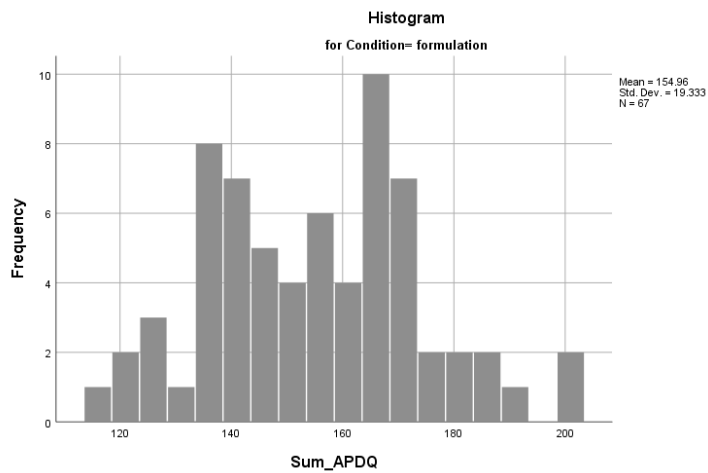
APDQ (total): Non-formulation Group

Histogram
for Condition= non formulation

Mean = 148.96
Std. Dev. = 23.03
N = 74

APDQ (factor 1): Formulation Group

Histogram
for Condition= formulation

Mean = 59.67
Std. Dev. = 12.437
N = 67

APDQ (factor 1): Non-formulation group

Histogram
for Condition= non formulation

Mean = 55.73
Std. Dev. = 11.952
N = 74
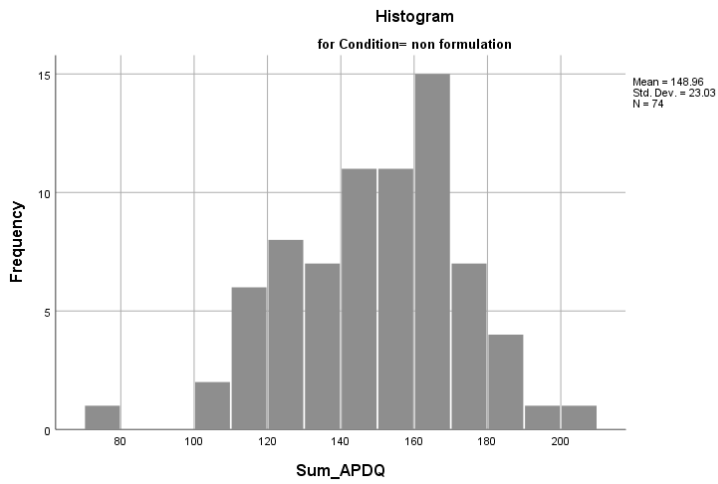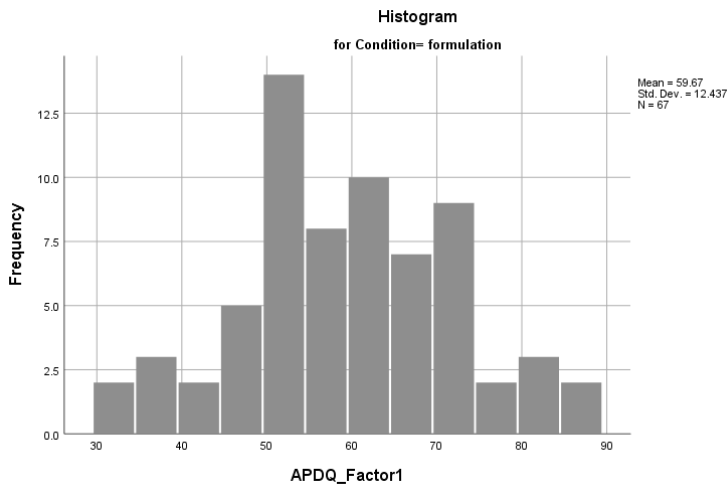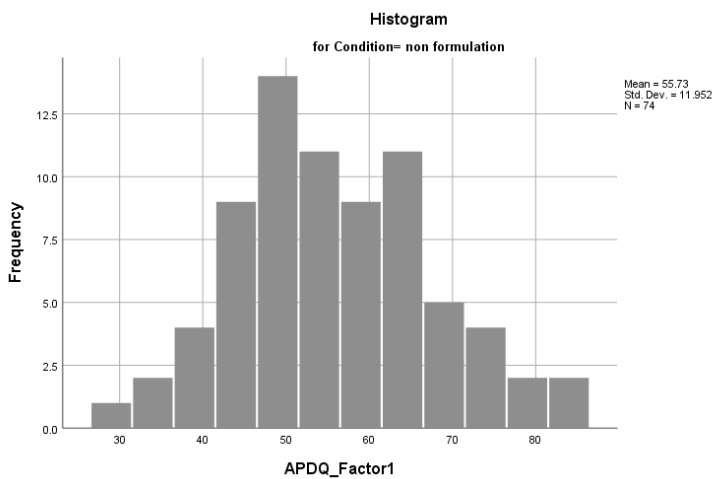
APDQ (factor 2): Formulation Group
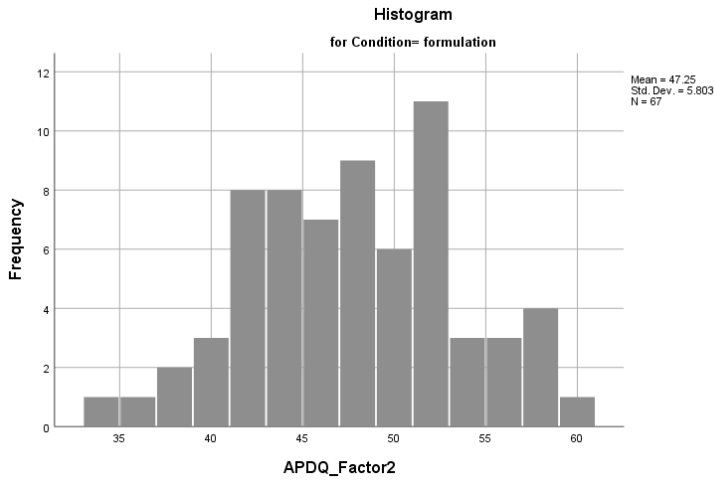
APDQ (factor 2): Non-formulation Group
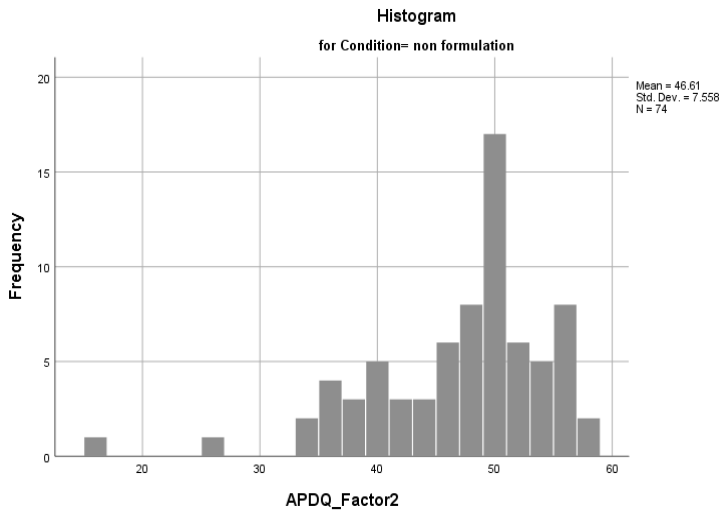
APDQ (factor 3): Formulation Group
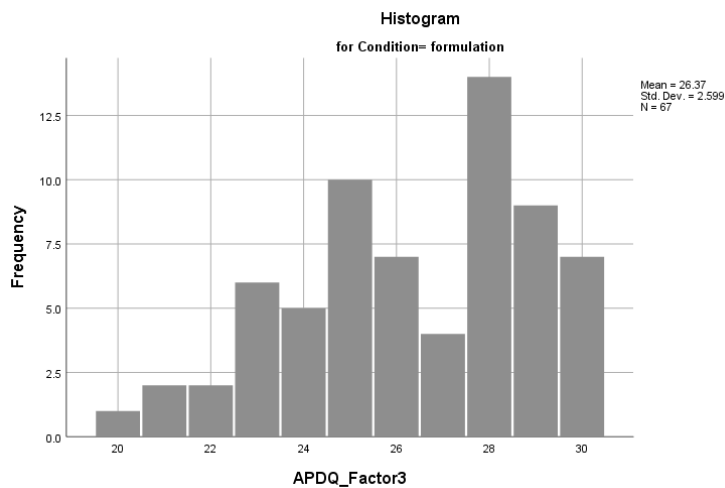
APDQ (factor 3): Non-formulation Group

Histogram

for Condition= non formulation

Mean = 25.81
Std. Dev. = 3.174
N = 74
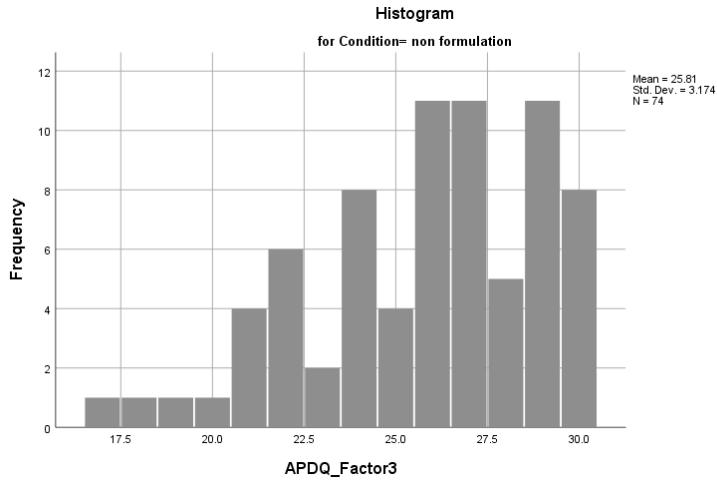
APDQ_Factor3

APDQ (factor 4): Formulation Group

Histogram

for Condition= non formulation

Mean = 13.59
Std. Dev. = 2.923
N = 74
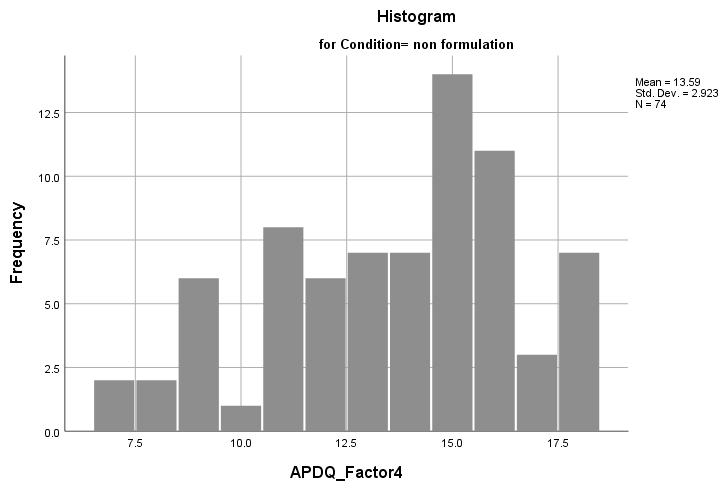
APDQ_Factor4

APDQ (factor 4): Non-formulation Group

Histogram

for Condition= formulation

Mean = 14.18
Std. Dev. = 2.117
N = 67
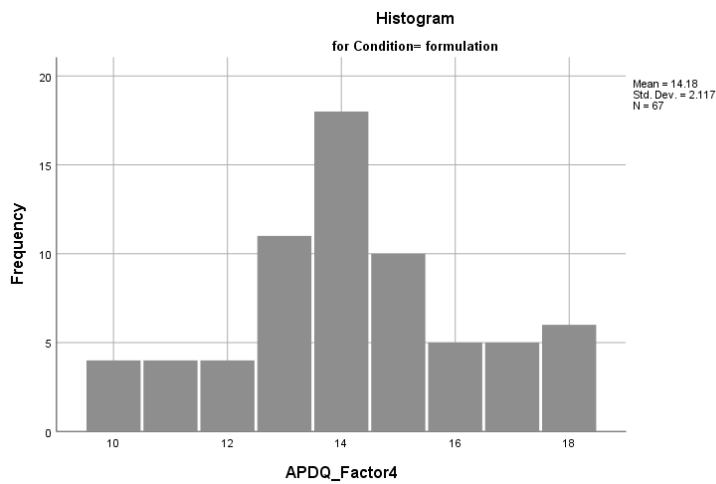
APDQ_Factor4

APDQ (factor 5): Formulation Group
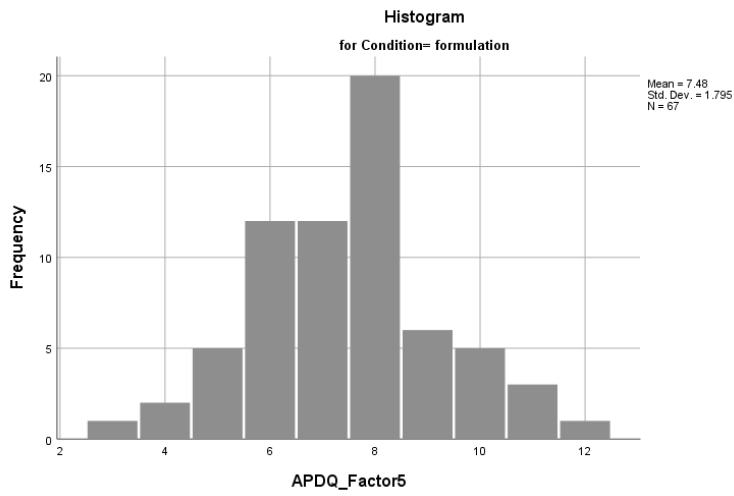
APDQ (factor 5): Non-formulation Group
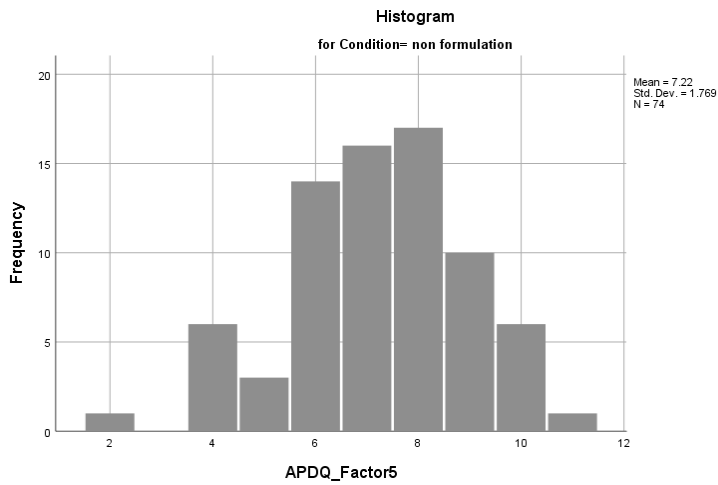
Causal Attribution Scale (internality): Formulation Group
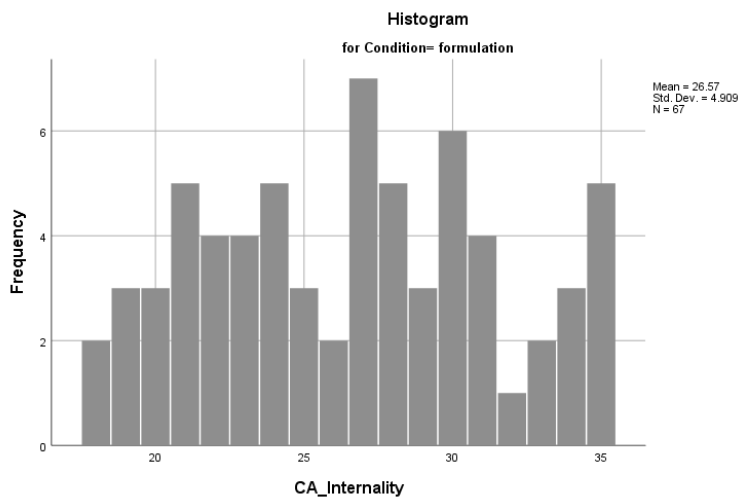
Causal Attribution Scale (internality): Non-formulation Group
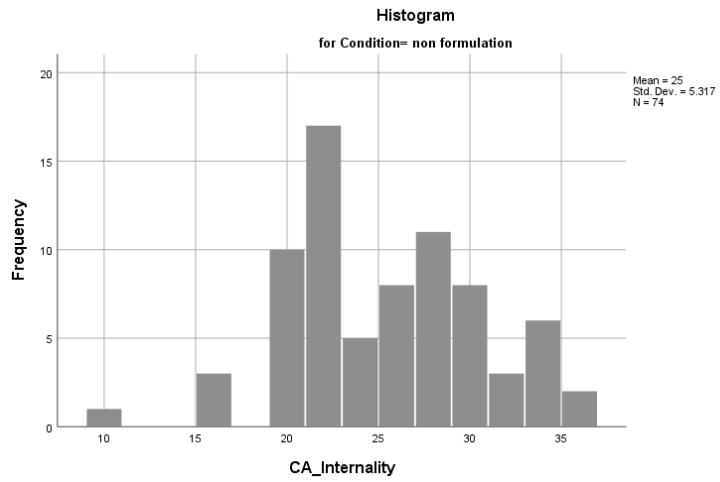
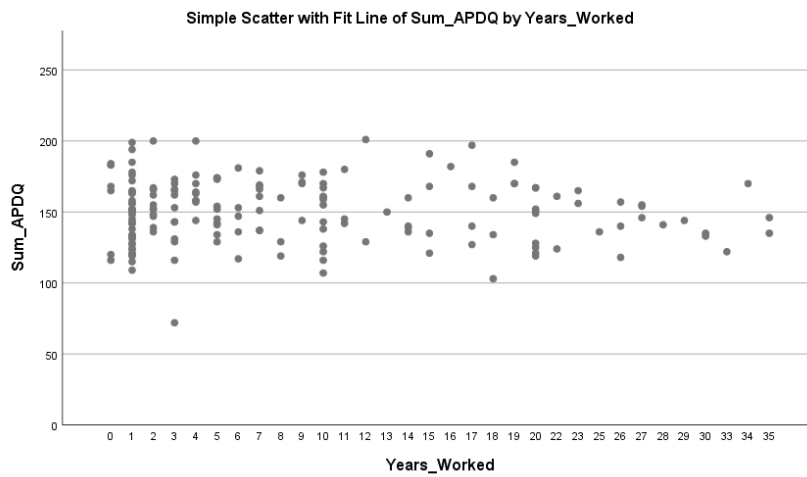**Causal Attribution Scale (stability): Formulation Group**
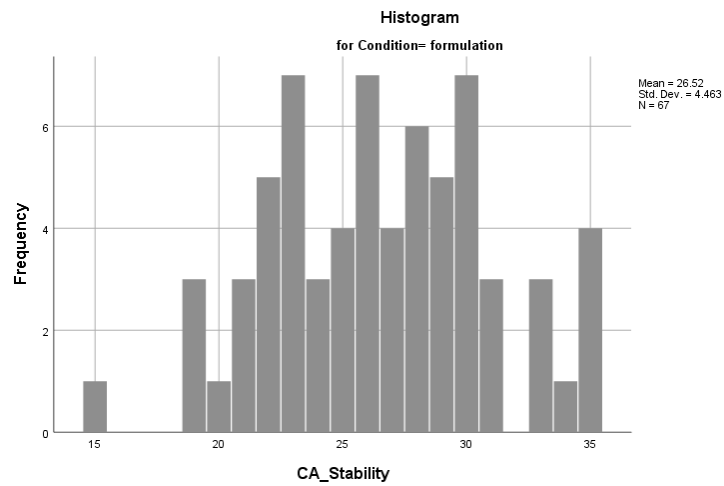
Causal Attribution Scale (stability): Non-formulation Group
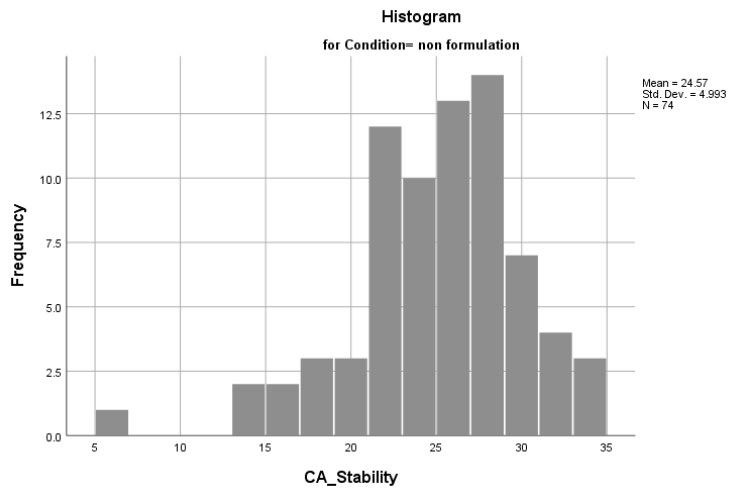
Causal Attribution Scale (globality): Formulation Group
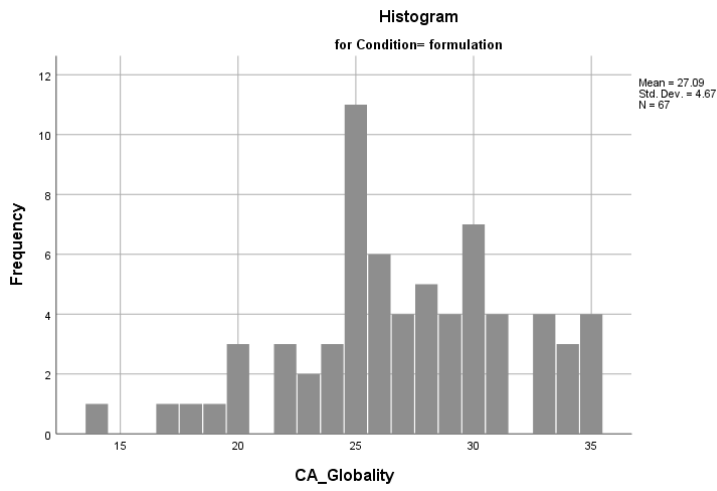
Causal Attribution Scale (globality): Non-formulation Group
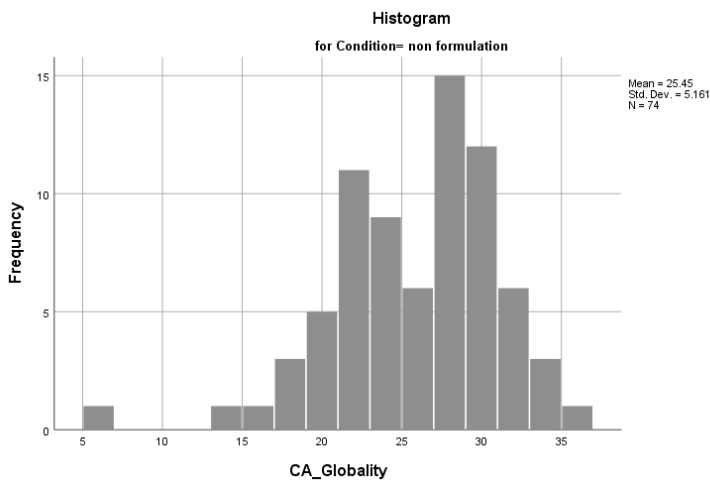
Causal Attribution Scale (controllability, cause): Formulation group
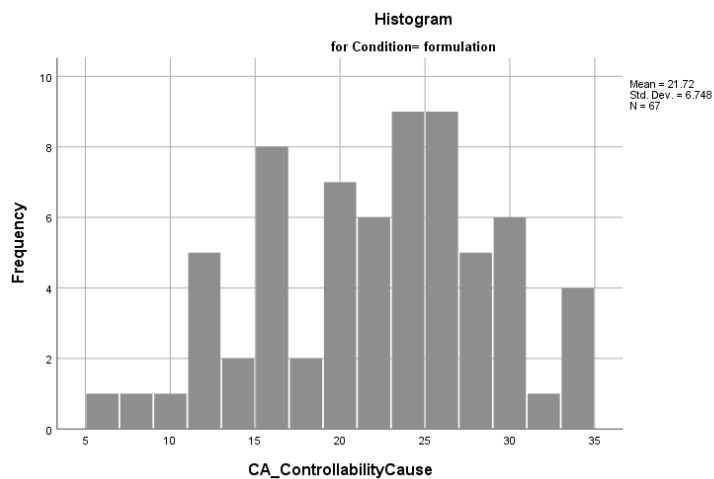
Causal Attribution Scale (controllability, cause): Non-formulation Group
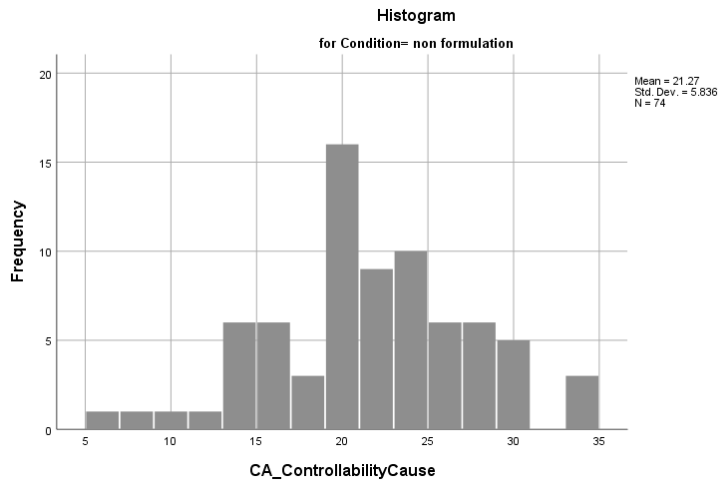
Causal Attribution Scale (controllability, event): Formulation Group
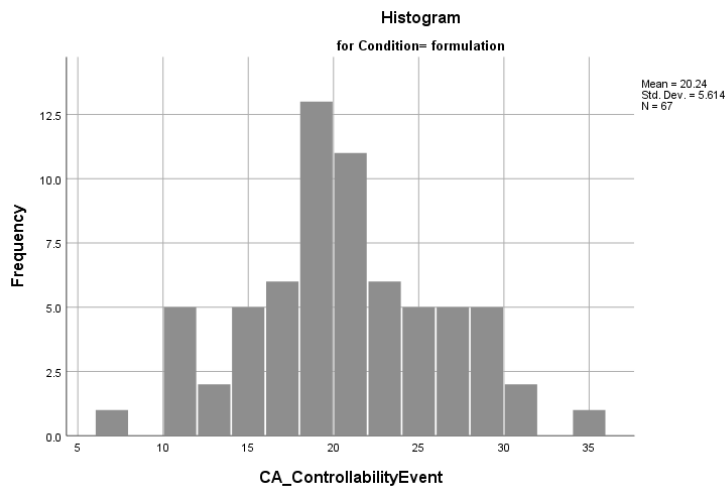
Causal Attribution Scale (controllability, event): Non-formulation Group
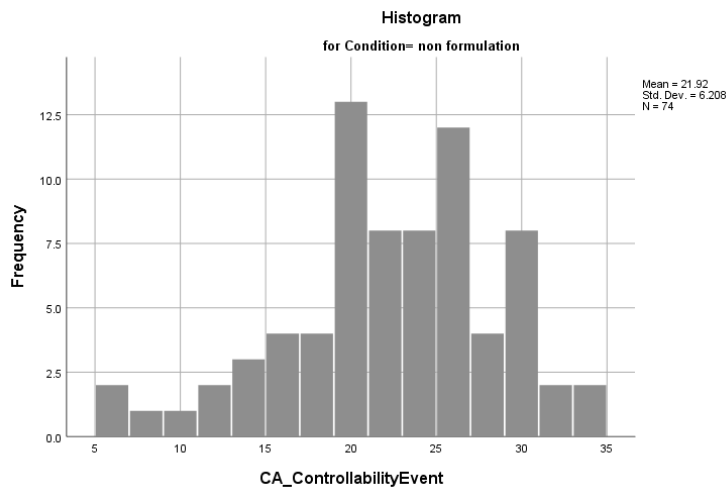
Appendix NN: Scatterplots for Each Measure against Years of Experience

Semantic Differentials (factor 1)-Years of Experience Scatterplot
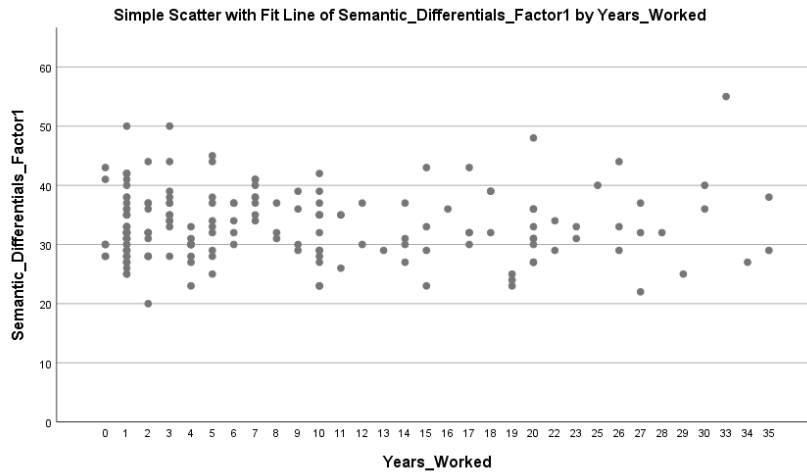
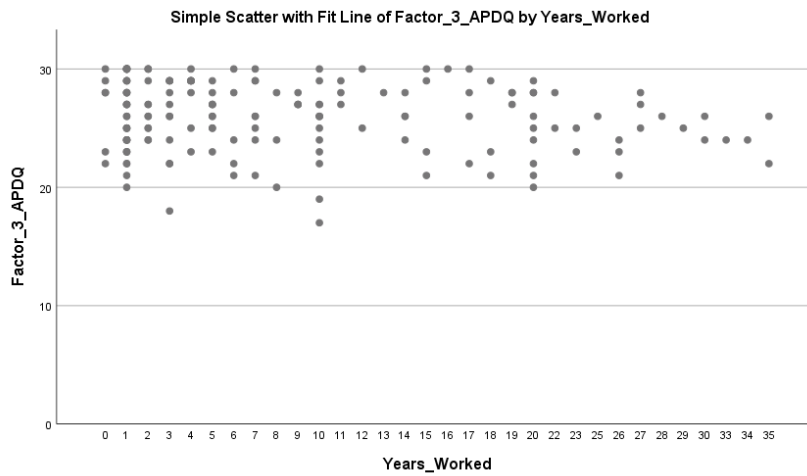**APDQ (total)-Years of Experience Scatterplot**

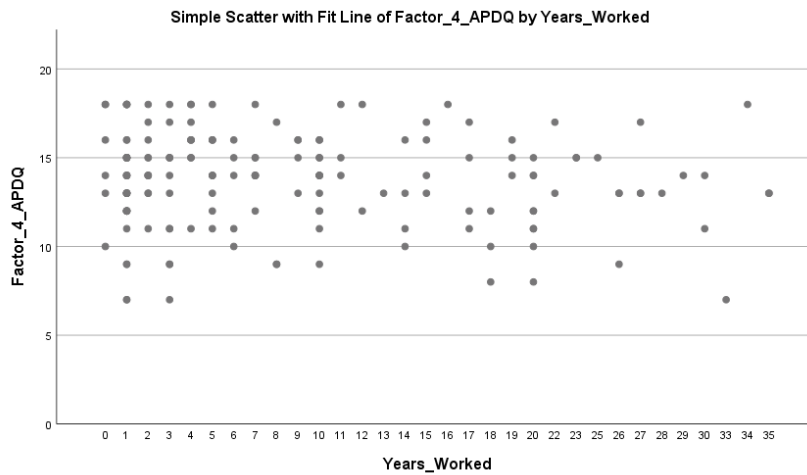**APDQ (factor 1)-Years of Experience Scatterplot**
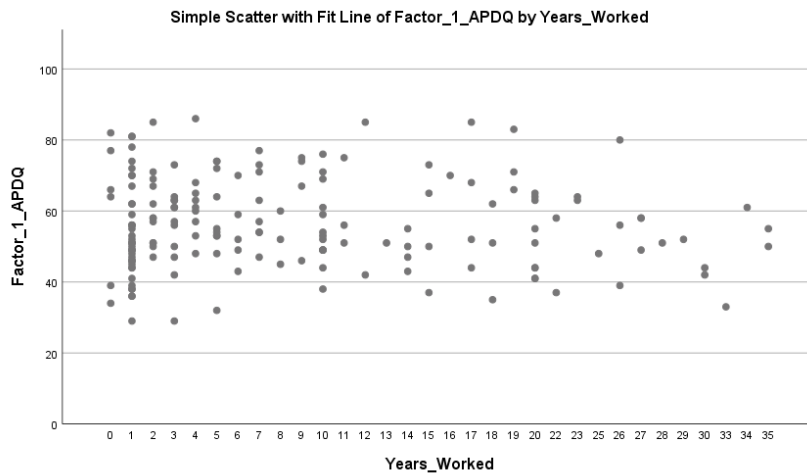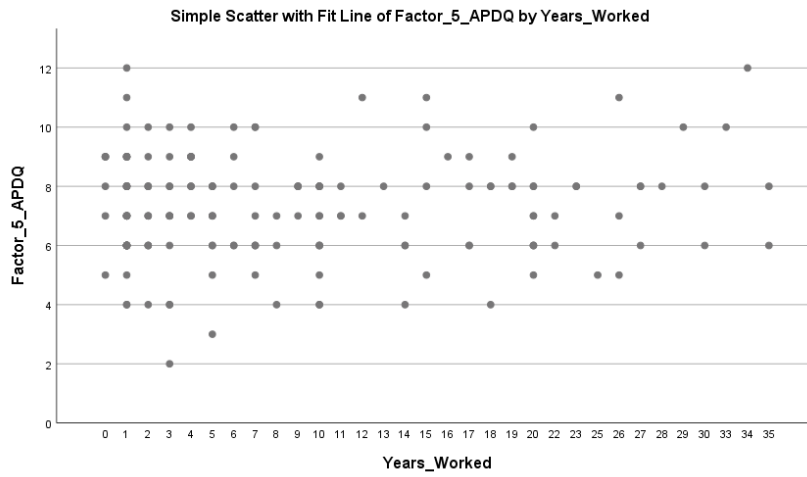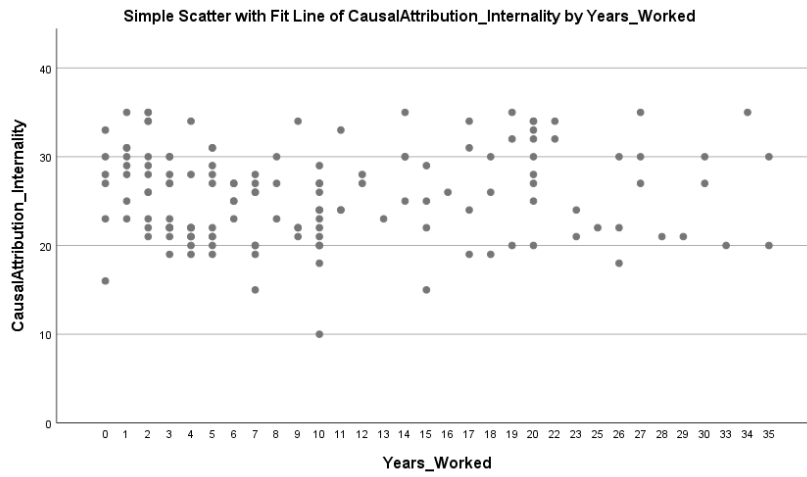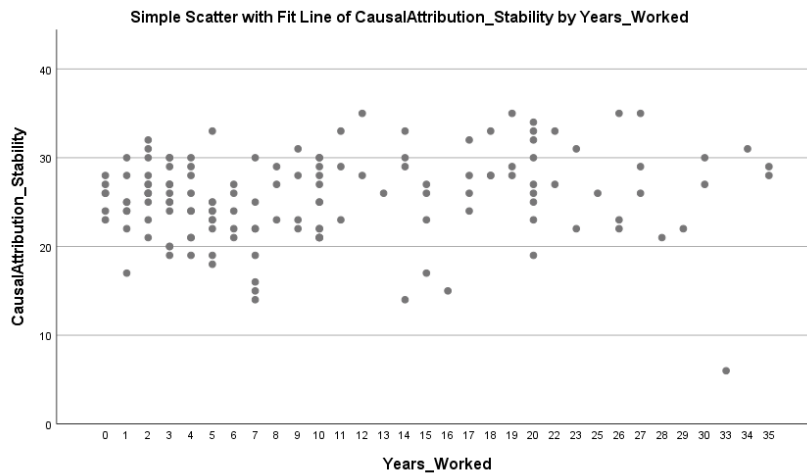
APDQ (factor 2)-Years of Experience Scatterplot

Simple Scatter with Fit Line of Factor_2_APDQ by Years_Worked
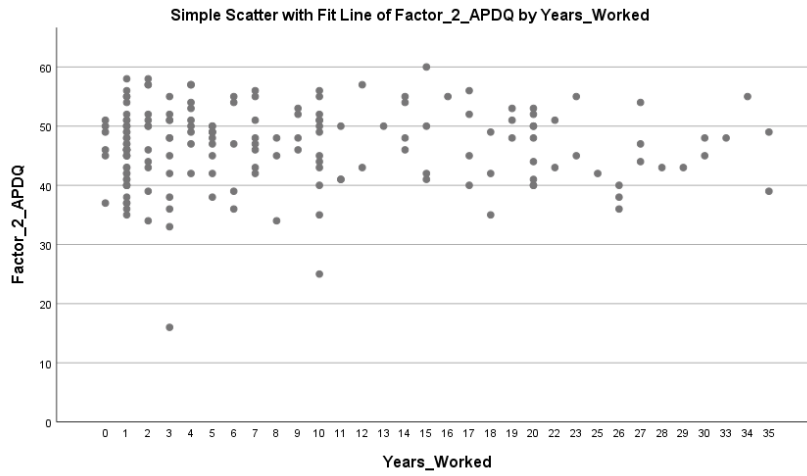
APDQ (factor 3)-Years of Experience Scatterplot

Simple Scatter with Fit Line of Factor_3_APDQ by Years_Worked

APDQ (factor 4)-Years of Experience Scatterplot

Simple Scatter with Fit Line of Factor_4_APDQ by Years_Worked

APDQ (factor 5)-Years of Experience Scatterplot

Simple Scatter with Fit Line of Factor_5_APDQ by Years_Worked

Causal Attribution Scale (internality)-Years of Experience Scatterplot

Simple Scatter with Fit Line of CausalAttribution_Internality by Years_Worked

Causal Attribution Scale (stability)-Years of Experience Scatterplot

Simple Scatter with Fit Line of CausalAttribution_Stability by Years_Worked

Causal Attribution Scale (globality)-Years of Experience Scatterplot

Simple Scatter with Fit Line of CausalAttribution_Gobality by Years_Worked
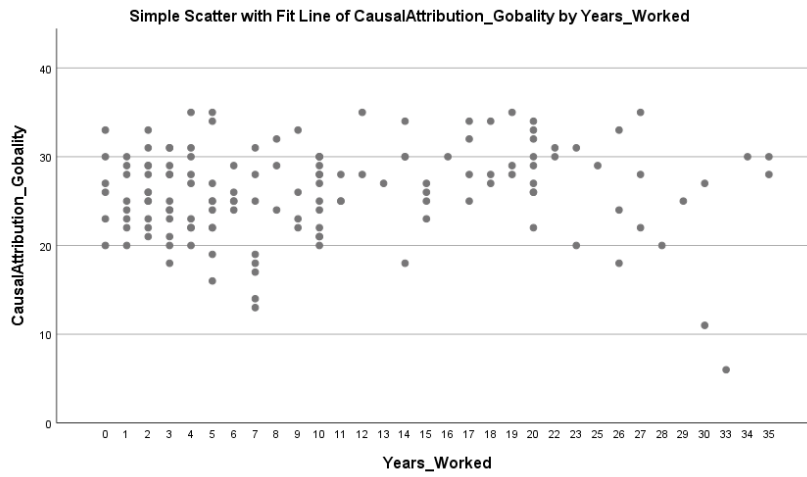
Causal Attribution Scale (controllability, cause)-Years of Experience Scatterplot

Simple Scatter with Fit Line of CausalAttribution_ControllabilityCause by Years_Worked
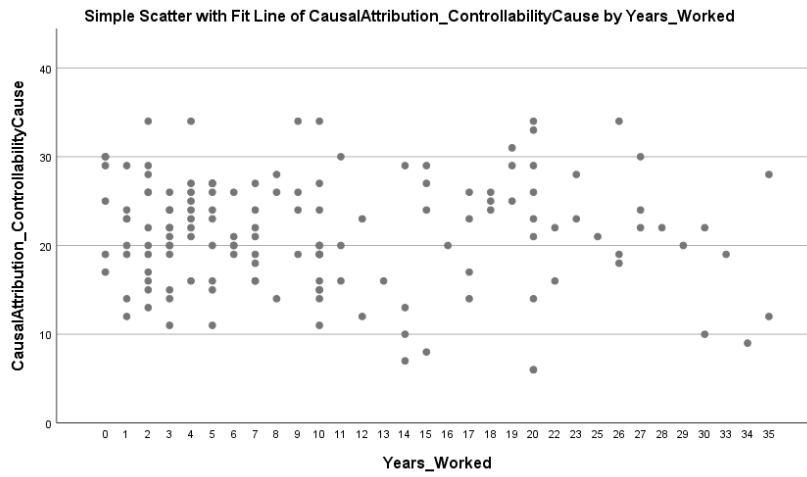
Causal Attribution Scale (controllability, event)-Years of Experience Scatterplot

Simple Scatter with Fit Line of CausalAttribution_ControllabilityEvent by Years_Worked
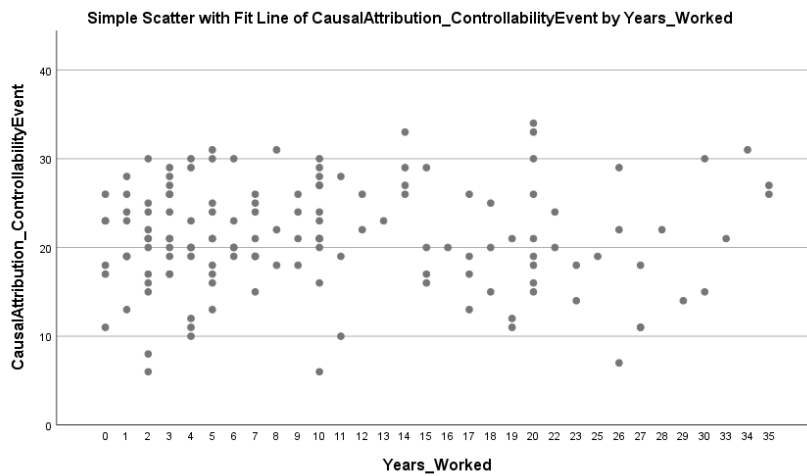
Appendix OO: Email Correspondence with Glyn Lewis

RE: Use of 22-semantic differentials for assessing attitudes towards individuals with a personality disorder

LG   Lewis, Glyn <glyn.lewis@ucl.ac.uk>   ↩ Reply | ⌄
        Fri 26/05/2017, 14:50
        Louis Appleby <Louis.Appleby@manchester.ac.uk>; Harriet Darby (MED); Chartonas, Dimit ⌄

Inbox

Harriet
The Cronbach alpha might not be an appropriate measure. It assumes that all the items are measuring the same construct and then uses the correlation between the items to estimate reliability. The idea of this scale was that we dreamt up things we thought might be affected by the PD diagnosis. Perhaps there is a single underlying dimension but it may be more complicated than that. You may well think some other things are more relevant these days as well and add to the list.
Best wishes
Glyn

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