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The conceptual evolution of exclusion rules in the DSM: Problems with determining when one diagnosis should rule out another.

Abstract: For each mental disorder listed in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM), the classification provides diagnostic criteria which list the symptoms required for diagnosis. Most sets of diagnostic criteria incorporate exclusion criteria, which state that a diagnosis can only be made in the absence of certain other diagnoses (for example, a specific learning disorder can usually only be diagnosed in the absence of intellectual disability). Exclusion criteria make it clear whether diagnoses can be made together or are exclusive. In the absence of such guidelines, diagnoses will not be reliable and the prevalence of conditions cannot be measured. Through tracing the conceptualisation of exclusion criteria across the DSM series, I show that exclusion criteria are necessary, but that determining what they should be has been intractably difficult. The exclusion rules employed by a classification reflect basic ontological and theoretical judgements about the causal structure of psychopathology. Pragmatic judgements also often play a role. As such, exclusion criteria introduce multiple tensions into the DSM system. On the one hand, exclusion criteria are required. On the other hand, the fact that exclusion criteria often rely on theoretical suppositions undermines any claims that the DSM can avoid controversial commitments. At the same time, the role played by pragmatic concerns, which are by nature often context dependent, threatens the employment of the DSM as a multi-purpose classification used world-wide. More fundamentally, difficulties around determining exclusion rules can arise because it is often unclear how mental disorders might be individuated, and such difficulties undermine hopes that the DSM might describe 'natural kinds' of disorder.

Key words: Diagnostic and Statistical Manual of Mental Disorders, DSM, psychiatric classification, psychiatric diagnosis, exclusion criteria, exclusion rules, comorbidity, natural kinds

1. Introduction

The *Diagnostic and Statistical Manual of Mental Disorders* (commonly known as the DSM) is a classification of mental disorders published by the American Psychiatric Association. The first DSM was published in 1952. The classification has since gone through a number of major revisions: DSM-II (1968), DSM-III (1980), DSM-III-R (1987), DSM-IV (1994), DSM-5 (2013). There have also been two 'Text Revisions', DSM-IV-TR (2000) and DSM-5-TR (2022), which involved no revisions to diagnostic criteria but only of the surrounding text.

Physically, the classification is now a large book of more than one thousand pages. At the core of the classification are the sets of diagnostic criteria, which detail the requirements for diagnosis and aim to be as explicit as possible. Very often such lists are polythetic, and require a certain number of symptoms from some longer list (4 from 9, say). Generally, there is some time requirement, which states how long symptoms must be present before diagnosis; sometimes there is an age restriction, with certain diagnoses being limited to adults or children. The diagnostic criteria also very often include *exclusion criteria*, which state that the diagnosis cannot be given if some other diagnoses have already been made (for example, a specific learning disorder can usually only be diagnosed in the absence of intellectual disability) (APA 2022 pp.76-77).

The DSM has come to structure mental health research and practice. DSM diagnostic criteria are used in the selection of participants for research, they structure much teaching, and inform the diagnoses given to patients. DSM codes and labels are also employed in the marketing of psychopharmaceuticals and for administrative purposes, such as for medical insurance. The DSM is explicitly designed by the American Psychiatric Association to be a classification that can be used in diverse contexts and that that serves the needs of different users (APA 2022 p.xxiii). In particular, it is central to the purposes of the DSM that it can be used both by researchers and also by clinicians, and that the system can also be employed for the collection of health statistics as mandated by the World Health Organization.

Although the DSM classification is widely used, it is also highly controversial. Amongst other concerns, there have been worries that the classification pathologises everyday problems in living (Frances 2013), may particularly pathologise the problems of women (Caplan 1995), and is less reliable than it claims (Kirk and Kutchins 1992). There are also concerns that the DSM may fundamentally misconstrue the nature of psychopathology: the DSM supposes that mental distress can be classified into numerous discrete conditions, but it

might be that mental disorders would be better modelled by some radically different system, maybe one which classifies by etiology rather than symptoms (Murphy 2006), or involves dimensions (Cuthbert and Insel 2013), or focusses on the situation of each unique individual (Johnstone et al 2018).

Within the philosophy of psychiatry, work on psychiatric nosology has tended to focus on conceptual issues around the DSM and on the related question of whether mental disorders might be 'natural kinds' (for example, Cooper 2005; Murphy 2006; Beebee & Sabbarton-Leary 2010; Kendler, Zachar & Craver 2011; Kincaid & Sullivan 2014; Tsou 2016; Werkhoven 2021). Fundamentally, debates as to whether mental disorders might be natural kinds have to do with whether it might be possible to construct a scientific psychiatric nosology – analogous to the Periodic Table in chemistry, or classifications of biological species - which would support inductions, predictions, and explanations. A popular strategy amongst philosophers has been to take psychiatric kinds to be broadly analogous to biological kinds, albeit potentially problematic in a variety of respects - being more 'heterogeneous', 'value-laden', or subject to 'looping' (for an overview of such concerns see Cooper 2013). The guiding picture has been one where as one moves from chemistry to biology to psychiatry the kinds involved get increasingly 'messy', but this messiness has been thought of as a matter of degree. Accordingly, philosophers have tried to adapt accounts of classification developed for less problematic domains with the aim of making them applicable to psychiatry. The use of the Homeostatic Property Cluster account of kinds, originally developed by Robert Boyd (1991), offers a clear example of such a strategy. Boyd developed his account to deal with the complexities of biology as compared to chemistry. Following Boyd's work, others have then applied his account, or similar non-essentialist accounts of natural kinds, to psychiatry (Cooper 2005 Ch 2; Murphy 2006 Ch 9; Beebee & Sabbarton-Leary 2010; Kendler, Zachar & Craver 2011; Tsou 2016).

Despite the intense attention received by the DSM, and the lively debates in the philosophy of psychiatry around natural kinds, the role played by exclusion rules in psychiatric classification has been little discussed (though for exceptions see First, Spitzer and Williams 1990, First 2005).[1] In this paper, I argue that diagnostic exclusion criteria are central to the DSM classification and cause fundamental problems. The vast majority of the sets of diagnostic criteria included in the DSM include some kind of exclusion criteria. Exclusion

[1] For example, exclusion rules receive no attention in otherwise comprehensive histories of the DSM (Decker 2013, Horwitz 2021).

criteria make it clear whether diagnoses can be made together or are mutually exclusive. In the absence of such guidelines, diagnoses will not be reliable and the prevalence of conditions cannot be measured. At the same time that exclusion criteria are necessary, however, figuring out what they should be is intractably difficult. The exclusion rules employed by a classification reflect basic ontological and theoretical judgements about the causal structure of psychopathology, which risk being inadequately supported and contested. Pragmatic judgements also often play a role. As such, exclusion criteria introduce multiple tensions into the DSM system. On the one hand, exclusion criteria are required. On the other hand, the fact that exclusion criteria often rely on theoretical suppositions undermines any claims that the DSM can avoid controversial commitments. At the same time, the role played by pragmatic concerns, which are by nature often context dependent, threatens the employment of the DSM as a multi-purpose classification suited for world-wide use. More fundamentally, problems around exclusion rules undermine the idea that psychiatric nosology can be considered analogous to the classification of individual animals into species, and threaten the notion that currently described types of mental disorder can be considered natural kinds.

2. Exclusion rules in the DSM

From the very beginning of the DSM series, the DSM has claimed that (i) as a general rule, disorders can co-occur and multiple diagnoses can be given, but that (ii) certain diagnoses are incompatible and cannot be made together.

Thus, the DSM-I (1952) claims:

> (a) Whenever two separate psychiatric conditions exist, such as Acute Brain Syndrome, drug or poison intoxication, and Depressive reaction, both will be recorded…
>
> (b) Some psychiatric diagnoses are incompatible with certain other diagnoses and will not be recorded as existing together, such as psychoneurotic and psychotic reactions… (APA 1952 p.46).

Similarly, the most recent edition of the classification, DSM-5-TR says:

> The general convention in DSM-5 is to allow multiple diagnoses to be assigned for those presentations that meet criteria for more than one DSM-5 disorder. (APA 2022 p.24)

And, the idea that certain diagnoses cannot be made together remains: many sets of diagnostic criteria include explicit exclusion criteria, which state that a diagnosis cannot be made if some other diagnosis has already been made. Examples from the DSM-5-TR include

- Provisional Tic Disorder - criterion E 'Criteria have never been met for Tourette's disorder' (APA 2022 p.93)
- Reactive Attachment Disorder – criterion E 'The criteria are not met for autism spectrum disorder' (APA 2022 p.296)

In addition to such explicit exclusion criteria, the DSM also includes some sets of diagnostic criteria that are written such that it is logically possible for a patient to only receive one diagnosis in the absence of another. Examples from the DSM-5-TR include

- Schizophreniform disorder and schizophrenia – the diagnostic criteria for these diagnoses include time requirements, which mean they cannot be diagnosed together. Schizophreniform disorder can only be diagnosed if the episode lasts at least 1 month but less than 6 months (criterion B, APA 2022 p.111). Schizophrenia can only be diagnosed if 'continuous signs of the disturbance persist for at least 6 months' (criterion C, APA 2022 p.114).
- Major depressive disorder and bipolar disorder – the diagnostic criteria for major depressive disorder include criterion E 'there has never been a manic episode or a hypomanic episode [unless due to substance use]' (APA 2022 p.183), which logically implies that major depressive disorder and bipolar disorder cannot be diagnosed together.

As well as the sets of diagnostic criteria, the DSM also includes much surrounding text which describes each disorder and considers issues of comorbidity and differential diagnosis. On occasion, this text includes material that makes it clear that one diagnosis precludes another even though such instructions are not included in the diagnostic criteria themselves. For example, in the DSM-5-TR, the diagnostic criteria for frotteuristic disorder do not include exclusion rules. However, the accompanying discussion of differential diagnosis informs readers that:

> Individuals with a major neurocognitive disorder, intellectual developmental disorder, personality change due to another medical condition, or schizophrenia, or who are in a manic episode or experiencing substance intoxication, may become sexually disinhibited or have impaired judgment or impulse control and engage in frotteuristic behaviour. Unless that behaviour occurs at times other than in the context of one of these disorders, a diagnosis of frotteuristic disorder should not be made (APA 2022 p.787).

In this paper, my aim is to explore the basic idea that particular diagnoses should not be made together. As such, I am interested in all the above types of case, and under 'exclusion criteria' I include all rules that mean that one diagnosis precludes another.

3. Exclusion rules clarified

Exclusion rules should be distinguished from guidelines for differential diagnosis and also from cases where the causal underpinnings of psychopathology ensure that two disorders will not co-occur.

3.1 Exclusion rules versus guidelines for differential diagnosis.

An exclusion rule states that two diagnoses are incompatible, such that someone cannot be given the two diagnoses together. Exclusion rules should be distinguished from guidelines for differential diagnosis. Guidelines for differential diagnosis assume that there is only one disorder to be diagnosed and then aim to bring out the features that distinguish one disorder from another. The problem is one of identifying the particular disorder, which must be distinguished from potential 'look-a-likes'. For example, in the DSM-5-TR, guidelines for differential diagnosis state that agoraphobia and social anxiety disorder can be distinguished on the basis that

> Individuals with agoraphobia may fear and avoid social situations (eg going to a movie) because escape might be difficult or help might not be available in the event of incapacitation or panic-like symptoms, whereas individuals with social anxiety disorder are most fearful of scrutiny by others. (APA 2022 p.233).

In guidelines for differential diagnosis, the thinking is analogous to that employed in the decision-trees that are included in guidebooks for distinguishing different species of plant or bird. In distinguishing types of birds of prey, for example, one might apply the rule that a bird with a forked tail cannot be a buzzard, but might be a kite.

Guidelines for differential diagnosis discuss the features that distinguish related disorders, whereas exclusion rules state that certain diagnoses cannot be made together. A rule that says that buzzards have blunt tails and kites have forked tails, does not rule out the possibility that both types of bird might be co-present in the sky. Analogously, guidelines for differential diagnosis explain how social anxiety disorder and agoraphobia might be distinguished but they do not rule out the possibility that social anxiety disorder and agoraphobia might co-occur.

3.2 Exclusion rules versus naturally incompatible disorders

Exclusion rules instruct clinicians that one diagnosis precludes another; they make it explicit that two diagnoses are incompatible. Exclusion rules are only required in circumstances where clinicians might be expected to meet patients who prima facie appear to be eligible for the two diagnoses.

Exclusion rules stop certain diagnoses being made together by fiat. There may also be instances where two disorders will never be seen together in the same individual but where this is ensured by the nature of reality rather than by diagnostic rules. The causal underpinnings of psychopathology may be such that certain disorders are incompatible. In such instances, it would be impossible for one individual to concurrently be affected by some two particular disorders. In some instances, for example, disorders might occur at both ends of some normal distribution. Consider, disorders associated with high and low blood pressure. People can suffer from high blood pressure, and they can also suffer from low blood pressure – but one person could not suffer from both types of disorder at the same time. Analogous instances might also arise in mental health. On certain models, personality disorders arise at the extreme ends of dimensions of personality traits (Widiger & Crego 2019). Such thinking guides the 'Alternative Model for Personality Disorders', which is included as an appendix in DSM-5. Here Antisocial Personality Disorder is conceptualised as essentially involving 'Disinhibition' (combined with other personality traits) (APA 2022 p.884), while Obsessive-Compulsive Personality Disorder requires 'Rigid Perfectionism', an 'aspect of extreme Conscientiousness', which is the polar opposite of 'Disinhibition' (2022 p.888). On this model, the structure of personality would be such that Antisocial Personality Disorder and Obsessive-Compulsive Personality Disorder would not co-occur.

When the causal structure of the world is such that two disorders simply cannot co-occur there is no need for this to be stated in exclusion rules. A diagnostician will simply never be

faced with an individual in which the two causally incompatible diagnoses might be made together. Rather, exclusion rules are employed in circumstances where individuals might prima facie meet diagnostic criteria for two diagnoses. The instruction that the two diagnoses should not be made together is required because in its absence the diagnostician can be expected to be unsure – they will come across individuals that lead them uncertain whether to make two diagnoses or only one.

3.3 Exclusion rules related to comorbidity

Diagnostic comorbidity arises when one patient receives more than one diagnosis (First 2005). A small literature addresses conceptual issues around comorbidity (for example, First 2005, Maj 2005, Aragona 2009, Zachar 2009). A patient may come to suffer from more than one disorder for a variety of reasons. Especially with disorders that have a relatively high prevalence rate, someone may come to suffer from multiple conditions at a time through sheer bad luck. If around 7% of people experience a specific learning disorder (such as dyslexia), and around 10% have an alcohol use disorder, then statistically (in the absence of any causal connection), seven in a thousand could be expected to suffer from both conditions together. In many cases, disorders occur together at greater than chance levels, because of some causal connection. It might be that one condition directly increases the chances of another occurring (for example, people with ADHD may get bored easily, which may increase drug and alcohol use, and so increase the chances of people with ADHD also developing substance use disorders). More complex causal relationships might also lead to two disorders co-occurring at greater than chance levels, for example, if two disorders share a common risk factor.

Exclusion rules and comorbidity are related. Diagnostic comorbidity occurs when diagnoses can be made together; exclusion rules outlaw certain combinations of diagnoses. As such, exclusion rules can be used to limit comorbidity. For example, prior to DSM-5, an exclusion rule stated that ADHD could not be diagnosed in those with a pervasive developmental disorder (eg autism) and so ruled out this combination of diagnoses. Now, with this exclusion rule deleted, autism spectrum disorder and ADHD are commonly diagnosed as comorbid conditions.

As a rule of thumb, the more exclusion rules a classification includes the lower the of likelihood of diagnostic comorbidity. This being said, the relationship between increasing exclusion rules and decreasing comorbidity rates is not entirely straightforward. As noted in

3.2, some disorders will be naturally incompatible and, even in the absence of exclusion rules, will not be diagnosed together. This means that not every single possible exclusion rule will reduce comorbidity (as some would only rule out diagnostic combinations that would in any case never be made). As a general rule, though, in a system like the DSM, adding exclusion rules decreases comorbidity rates.

To sum up, by 'exclusion rule' I mean any diagnostic rule that dictates that particular diagnoses are incompatible. Exclusion rules differ from guidelines for differential diagnosis, in that guidelines for differential diagnosis explain the features that distinguish disorders but do not rule out the possibility that they can co-occur. Exclusion rules are only needed in cases where clinicians can be expected to meet individuals who would otherwise meet the diagnostic criteria for both diagnoses. In instances where disorders are naturally incompatible, such that no individual will ever present who meets both sets of diagnostic criteria, exclusion rules are unnecessary. Exclusion rules and diagnostic comorbidity are related concepts, in that diagnostic comorbidity occurs when diagnoses can be made together, while exclusion rules act to rule out particular combinations of diagnoses.

4. The importance of exclusion rules

Exclusion rules matter. Without rules that make it clear whether a clinician should make one diagnosis or two, diagnoses will be unreliable, prevalence rates cannot be obtained, and the characteristic features of disorders will be uncertain. More abstractly, exclusion rules encode claims about the ontology of psychopathology, and the etiological relationships between disorders.

4.1. Exclusion rules are required for reliability

Though there are various different measures of reliability, one basic idea is that different clinicians should make the same diagnosis when faced with the same patient (Spitzer & Fleiss 1974). In the absence of exclusion rules, multiple, or mixed, forms of mental disorder threaten reliability. Consider someone with schizophrenia, whose delusions lead them to develop symptoms of anorexia, and who also suffers from depressive symptoms. Should they be given three diagnoses, or two, or one? In the absence of clear rules, different clinicians will make different decisions and reliability will suffer. In comparison to more recent editions, the DSM-I and DSM-II included only sparce guidance on how a clinician should

diagnose mixed and complex cases. This led to problems with reliability, which the DSM-III sought to address via the inclusion of explicit exclusion rules (Ward et al. 1962; Spitzer, Endicott and Robins 1975 p.1188).

4.2 Exclusion rules affect prevalence rates

As individuals are frequently encountered who prima facie seem to suffer from multiple conditions, the presence or absence of exclusion criteria can make a significant difference to the apparent prevalence of mental disorders. Consider, for example, the relationship between depression and generalized anxiety disorder. The DSM-IV included an exclusion rule which meant that generalized anxiety disorder could not be diagnosed if concurrent with a mood disorder (APA 1994 p. 435). In DSM-5, this exclusion criterion was removed. The result was an 'influx of new GAD cases: prevalence estimates increased by 37% for lifetime GAD' (Ruscio et al 2018 p.86).

At the same time that they affect prevalence rates, exclusion rules impact on the common characteristics of those who receive particular diagnoses. Under the DSM-IV, patients diagnosed with generalized anxiety disorders necessarily could not have suffered from depressive symptoms (at least not sufficient for a mood disorder diagnosis). In contrast, under DSM-5-TR, patients with generalized anxiety disorders can commonly be expected to also have depressive symptoms. A change in exclusion rules thus alters the characteristics of patients who receive particular diagnoses: in the 1990s anxious patients tended not to have depressive symptoms, now anxious patients can be expected to also have issues with depression.

4.3. Exclusion rules make implicit claims about the ontology and etiology of mental disorders

Exclusion rules are also conceptually revealing. The approach that a classificatory system takes to exclusion rules implicitly commits it to some view or other of the ontology of psychopathology. In the memorable phrasing of Ernst Stengel, some classifications conceptualise the relationship between patient and mental disorder as being akin to that between host and parasite (1961, p.23). They take mental disorders to be 'entities', such that instances of distinct mental disorder might co-occur within one individual while maintaining their distinct essential nature. On such conceptions, in the same way that someone might happen to host both a flea and a tape worm, they might also happen to suffer from both schizophrenia and phobia.

On other models, the domain of psychopathology cannot be likened to parasitology. For example, those who think that mental illness is a total response of an individual to stress, will tend to think of an individual's symptoms as forming a holistic whole which cannot be carved up into distinct diagnoses. If we think that psychiatric classifications classify reactions of the total personality, then when one patient meets two or more sets of diagnostic criteria, we will not suppose that there are multiple abstract disorders to be classified, but rather just one person facing complex problems (or one complex reaction). Models along these lines were notably popular in the US in the 1950s, cohering with both psychoanalytic approaches and the approach of Adolf Meyer (Lamb 2014 especially pp. 152-160).

The general approach that a classification system adopts with regard to exclusion rules thus implicitly commits it to a view of the nature of psychopathology. Classification requires a choice: Are mental disorders such that one individual can happen to be afflicted by multiple independent disorders? Or, is mental illness always such that an individual's symptoms need be understood as a complex totality?

In addition to embedding such general commitments about the nature of psychopathology, exclusion rules also encode more specific commitments about the nature of particular classes of disorders. For example, in the DSM-I, psychoses and psychoneuroses could not be diagnosed together. Psychoses were characterised as involving personality disintegration, and the level of personality disintegration involved in psychosis was taken to be too severe to be compatible with forms of psychological defence thought to underlie neurosis (APA 1952 p.24, p.31).

Applying exclusion rules also often requires individual clinicians to make decisions about the presumed causal relationships between different mental disorders. In the DSM-5-TR, many exclusion rules state that diagnoses can only be made if the symptoms are 'not better explained by the symptoms' of some other mental disorder. For example, hoarding disorder can only be diagnosed if the hoarding cannot be better explained by another mental disorder, and the text gives as possible examples, 'decreased energy in major depressive disorder…restricted interests in autism spectrum disorder' (APA 2022 p.277). Applying such criteria requires clinicians to make fine-grained and theory-driven judgements about the likely causal relations between different conditions.

To sum up, rules that set out whether diagnoses are compatible or exclusive are both practically indispensable and also conceptually revealing. At a practical level, such rules are

essential for diagnostic reliability. Given that complex presentations are ubiquitous, exclusion rules substantially alter the likelihood of any particular diagnosis being made and can make huge differences to apparent prevalence. At the same time, the approach that a classificatory system takes to exclusion rules implicitly commits it to some view or other of the domain of psychopathology. Exclusion rules embed both general commitments about the basic nature of psychopathology and more specific theoretical ideas about the relationship between different classes of disorder.

5. The development of exclusion rules in the DSM

The approach taken to rules for multiple diagnoses and exclusion has varied between editions of the DSM. This section provides an edition-by-edition overview of this history and serves several purposes. First, this historical review will help make the key claim of this paper plausible. In this paper I argue that the exclusion rules included in the DSM are a conceptual mess that are a weak point in the entire system, and that this has largely been over-looked by critics of the DSM to date. Prima facie, this may seem an implausible claim. The committees that produce the DSM are made up of committed and clever people and the classification is used worldwide. As such, it may seem unlikely that the system might be fundamentally conceptually flawed in a way that has largely escaped notice. A historical review of exclusion rules in the different editions makes my claims more plausible, through explaining how it is that the current edition of the DSM has come to inherit a mish-mash of exclusion rules that lack a coherent conceptual under-pinning. The historical discussion of this section also serves to illustrate the claims already made in Section 4: exclusion rules matter for reliability, they affect prevalence rates, and they will vary depending on one's understanding of psychopathology. Looking ahead, the discussion of this section will also provide examples that will be returned to later, in Section 6, which provides a taxonomy and discussion of the various different grounds (pragmatic, epistemic and metaphysical) on which exclusion rules might potentially be justified.

5.1. Exclusion rules in the DSM-I (1952)

In conceptualising exclusion rules, the DSM-I employed an approach quite unlike that of more recent editions. The DSM-I allowed multiple diagnoses to be made 'whenever two separate psychiatric conditions exist' and gives 'Acute Brain Syndrome, drug or alcohol intoxication' and 'Depressive reaction' as an example of a case where two diagnoses should be given (APA 1952 p.46). However, although the DSM-I allowed for multiple diagnoses

when two separate conditions exist, the DSM-I simultaneously supposed that appropriately separate conditions could be expected to be unusual.

For the most part, the DSM-I employed a model whereby an individual would suffer from one 'basic' or 'predominant' disorder, which might then have other symptom patterns 'superimposed' on it, resulting in a 'modification of the clinical picture' (APA 1952 p.13). The diagnosing clinician would first identify the 'basic disorder' and was instructed to then use various qualifying phrases to record other important symptom patterns. The structure of the DSM-I classification reflected the idea that psychiatric diagnosis is hierarchical. Organic disorders were taken to be the most basic, followed by the psychoses (schizophrenia and manic depression) and then neuroses.

The introduction to the classification explains that as a general rule the DSM-I

> permits the modification of any of the primary psychiatric diagnoses by the qualifying phases, .x1 with psychotic reaction, .x2 with neurotic reaction, and .x3 with behavioural reaction. These are intended to describe any major alteration of the clinical picture of a diagnosed condition which may appear when further mental symptoms are superimposed on the basic disorder (APA 1952 p.12)

Later the manual offers the following instructions

> If a diagnostic entity (which would be recorded as the only diagnosis, if encountered as an isolated personality disturbance) is part of a more extensive process or secondary to it, the primary condition will be recorded as the diagnosis, with the less important or secondary condition given as a manifestation. Examples:

(1) Anxiety reaction manifested by somnambulism
(2) Passive-aggressive reaction, manifested by enuresis (APA 1952 p.46)

Such rules required clinicians to make a judgment as to whether or not a symptom-pattern was part of the basic disorder.

When diagnosing psychoneurotic reactions, the DSM-I required a decision to be made as to the 'predominant' type of symptoms. The clinician is instructed:

> Only one type of psychoneurotic reaction will be used as a diagnosis, even in the presence of symptoms of another type. The diagnosis will be based on the

> predominant type, followed by a statement of its manifestations, including symptoms of the other types of reaction. Examples:
>
> (1) Anxiety reaction with minor conversion symptom
>
> (2) Phobic reaction, manifested by claustrophobia, with obsessive-compulsive symptoms, counting and recurring thoughts (APA 1952 p.46)

The general approach taken in the DSM-I is for each individual to be given one diagnosis – which might be the basic or predominant condition. The clinician is then encouraged to use qualifying codes and descriptive phrases to draw attention to any other significant symptoms.

The use of qualifying and descriptive phrases meant that full DSM-I diagnoses could be long and complex affairs. The system required the clinician to make various judgement calls – Is a symptom pattern separate? Or, is it 'secondary' or 'superimposed'? Which of a number of symptom patterns is predominant? Such choices led to problems with reliability. As Ward et al (1962) note, reasonable clinicians might well disagree when forced to make a choice between 'anxiety reaction with depressive features vs neurotic reaction with anxiety features' (p.200).

5.2. Exclusion rules in DSM-II (1968)

The DSM-I used qualifying phrases to describe how a patient's 'basic disorder' might be 'modified' or 'manifest' by various 'secondary' symptom patterns, eg 'anxiety reaction with depressive symptoms'. The DSM-I was a US system for US use. In contrast, the DSM-II was designed to be compatible with the ICD-8, published by the World Health Organisation, and the constraints of the ICD-coding system meant that qualifying phrases could no longer be employed to provide information about additional symptoms (APA 1968 p.3). In the DSM-II, where patients concurrently had symptoms suggestive of multiple diagnoses, the only way for such information to be recorded was via making multiple diagnoses.

The introduction to the DSM-II signalled that multiple diagnoses might be expected: 'individuals may have more than one mental disorder' (APA 1968 p.2), for example 'a patient with anxiety neurosis may also develop morphine addiction' (APA 1968 p.2). However, at the same time that the DSM-II permitted multiple diagnoses, the introduction also warned that 'The diagnostician…should not lose sight of the rule of parsimony and

diagnose more conditions than are necessary to account for the clinical picture' (APA 1968 p.2).

In the main text of the classification, some diagnostic combinations are specifically permitted or disallowed. For example, explicit instructions are given that mental retardation should be listed as separate diagnosis (APA 1968 p.2), and the discussion of alcoholism instructs that 'If the alcoholism is due to another mental disorder, both diagnoses should be made' (APA 1968 p.45). Other diagnostic combinations are disallowed. The DSM-II instructs that patients with 'mixed' neuroses 'should be diagnosed according to the predominant symptom' (APA 1968 p.41), suggesting that the various neuroses are conceptualised as mutually exclusive diagnoses. As another notable example, the 'Special Symptoms', which include anorexia and tics, should not be diagnosed:

> if the symptom is the result of an organic illness or defect or other mental disorder. For example, anorexia nervosa due to schizophrenia would not be included here (APA 1968 p.48)

However, although, the DSM-II included some explicit guidance about the permissibility of particular combinations of diagnoses, such instructions were patchy. As Spitzer, Endicott and Robins (1975) complained,

> There are usually few, if any, guidelines as to which diagnoses are mutually exclusive or which should be joint diagnoses to help the clinician faced with a patient with clinical features suggesting two different conditions. (Spitzer, Endicott and Robins, 1975, p.1188).

5.3. Exclusion rules in DSM-III (1980)

As part of a push to enhance reliability, the DSM-III provided explicit diagnostic criteria for each diagnosis. The general approach taken by the DSM-III was that an individual who meets multiple sets of diagnostic criteria should be given multiple diagnoses UNLESS the diagnostic criteria explicitly dictate otherwise.

Such exclusion rules were common, being included in diagnostic criteria for 60% of the DSM-III disorders (Boyd et al 1984). For example:

- Criteria for attention deficit disorder with hyperactivity include criterion F 'Not due to Schizophrenia, Affective Disorder, Severe or Profound Mental Retardation.' (APA 1980 p. 44)
- Criteria for schizophrenia include criterion F 'not due to any Organic Mental Disorder or Mental Retardation' (APA 1980 p.188)

The introduction to the DSM-III contained some discussion of the rationale behind the exclusion rules (APA 1980 pp.8-9). A basic idea behind many of the rules is that mental disorders have a hierarchical structure. In the DSM-III, organic disorders are taken to be at the top of the hierarchy and can explain all possible symptoms. An individual with an organic diagnosis would thus receive no other diagnosis, regardless of the various symptom patterns that might be present. Schizophrenia comes next in the hierarchy, followed by mood disorders, and then the anxiety disorders. The DSM-III explains:

> In some mental disorders, for example, Organic Mental Disorders, there is a wide range of signs and symptoms. In others, such as Anxiety Disorders, only a limited range of signs and symptoms is seen. For this reason, the order in which diagnostic classes are listed represents, to some extent, a hierarchy is which a disorder high in the hierarchy may have features found in disorders lower in the hierarchy, but not the reverse. (APA 1980 pp.8-9)

The idea that psychiatric diagnosis has a hierarchical structure has a long history, stretching back to at least Karl Jaspers ([1959],1997). Often the idea that psychiatric diagnosis has a hierarchical nature has been implicit, encoded in the structure of textbooks and classifications (such as with the DSM-I), rather than explicit (Kendell 1975 pp.102-103; Klerman 1990). Interpretations of such hierarchies have differed. Jaspers took the hierarchy to be a matter of convention ([1959],1997 p.612). Others have thought that diagnostic hierarchies can be empirically justified and might reflect the causal underpinnings of psychopathology (Foulds 1965, Ghaemi 2019).

The ordering of the DSM-III hierarchy was distinctive and came to be contested post-publication. Traditionally, psychoses (manic-depressive and schizophrenia) have been taken to be higher in the hierarchy than neuroses (Kendell 1975 pp.102-3; Klerman 1990 p.17). On this ordering, milder forms of depression and anxiety disorders are on a par. However, the DSM-III did not draw a distinction between psychoses and neuroses, and the DSM-III class of Affective Disorders included both psychotic and milder depressions. In the DSM-III

hierarchy, Affective Disorders as a class are higher than Anxiety Disorders as a class, and so even mild depressive disorders are taken to exclude anxiety disorder diagnoses.

The hierarchical structure laid out in the introduction to the DSM-III was partially operationalised in the sets of diagnostic criteria included in the main text. However, the DSM-III contained very many disorders, making it difficult to write comprehensive exclusion rules, and in some instances there seemed to be inconsistencies. For example, in the DSM-III a diagnosis of schizophrenia precludes a diagnosis of agoraphobia (APA 1980 p.227) or simple phobia (APA 1980 p.230), but can be made concurrently with a diagnosis of social phobia (APA 1980 p.228). It is unclear why a diagnosis of schizophrenia might rule out some anxiety disorders but not others. The rules around the co-diagnosis of affective and anxiety diagnoses also seemed inconsistent. A diagnosis of any depressive disorder (eg major depression or dysthymic disorder) would rule out a diagnosis of generalised anxiety disorder. In contrast, while a diagnosis of major depression precluded a diagnosis of obsessive compulsive disorder (APA 1980 p.235), dysthymic disorder and obsessive compulsive disorder might be diagnosed together (APA 1980 p.223). In the words of Skodol 'the clinician who attempted to apply these complex rules ...was likely to sink into a morass of confusion and apathy' (Skodol 1989 p.247).

5.4 Exclusion rules in DSM-III-R (1987)

The DSM-III-R was published just seven years after the DSM-III. Robert Spitzer chaired the committees responsible for both editions. Although Spitzer was the chief architect of the DSM-III hierarchy, post-publication he came to recognise problems with it and pushed for its revision. In the lead up to the development of the DSM-III-R, Spitzer noted

> The exclusion criteria for the various disorders, which operationalize this hierarchical structure, have been criticized on various grounds, and research data on the concurrence of different syndromes suggest that the revision of DSM-III might do well to eliminate some of the diagnostic hierarchies that prevent the joint diagnosis of different syndromes (Spitzer and Williams 1988 p.55).

As this appeal to 'research data' makes clear, the DSM-III conceptualised the hierarchical structure of psychopathology as being grounded in empirical facts, about the distribution of symptoms. The basic idea behind the DSM-III hierarchy was that a 'disorder high in the hierarchy may have features found in disorders lower in the hierarchy, but not the reverse.' (APA 1980 p.8-9). If this were true, then syndromes lower in the hierarchy (eg panic

disorder) should be found much more frequently in people with a diagnosis higher in the hierarchy (eg major depression) than in people without. Boyd et al (1984) used data from the NIMH Epidemiology Catchment Area Project to see whether psychiatric symptoms are distributed in line with the DSM-III hierarchy. They found that DSM-III diagnoses higher in the hierarchy did indeed increase the odds of someone also suffering from a syndrome lower in the hierarchy. However, they additionally found many more correlations than the DSM-III hierarchy predicted; any DSM-III diagnosis increased the odds of someone also suffering from any other syndrome. Rather than supporting a distinctively hierarchical model, their findings suggested that all types of psychopathology are associated with all other types of psychopathology.

Other studies cast particular doubt on the DSM-III's placing of affective disorders above anxiety disorders. Spitzer and Williams (1988) cite Leckman et al (1983) who studied the relatives of people who had both affective and anxiety symptoms and found that their relatives were at an increased risk of suffering from anxiety disorders. Leckman et al. argued that this suggested that anxiety symptoms occurring even in the presence of mood disorders reflected an underlying vulnerability to anxiety disorder, and should not be considered to merely part of the mood disorder.

In the light of such studies, in the DSM-III-R some of the DSM-III exclusion rules were removed (notably many that had disallowed the diagnosis of anxiety disorders concurrently with mood disorders) (First, Spitzer & Williams 1990 p.96). Other elements of the DSM-III hierarchy, and many accompanying exclusion rules, remained. The introductory text to the DSM-III-R sought to clarify the rationale:

> In DSM-III-R, diagnostic hierarchies are governed by two principles;
>
> 1.When an Organic Mental Disorder can account for the symptoms, it pre-empts the diagnosis of any other disorder that could produce the same symptoms (eg Organic Anxiety Disorder pre-empts Panic Disorder).
>
> 2. When a more pervasive disorder, such as Schizophrenia, commonly has associated symptoms that are the defining symptoms of a less pervasive disorder such as Dysthymia, only the more pervasive disorder is diagnosed if both its defining symptoms *and* associated symptoms are present. For example, only Schizophrenia (not Schizophrenia and Dysthymia) should be diagnosed when the defining symptoms of Schizophrenia are present along with chronic mild

> depression (which is a common associated symptom of Schizophrenia) (APA 1987 pp. xxiv- xxv)

5.5 Exclusion rules in DSM-IV (1994) and DSM-IV-TR (2000)

The committees responsible for DSM-III and DSM-III-R were chaired by Robert Spitzer, who understood exclusion rules as being justified or undermined by empirical evidence about the distribution of psychiatric symptoms. Spitzer thought that the rules for diagnosis might be right or wrong, and should reflect empirical evidence. In contrast, the DSM-IV was chaired by Allen Frances. Frances' writings suggest a rather different understanding of the meaning of multiple diagnoses and exclusion rules. Alongside co-authors, he wrote:

> The encouragement to make multiple diagnoses inherent in the DSM-III and DSM-III-R is useful in saving information if it is understood that such information is only at the descriptive level…It is important for us to remember that our classification system provides no more than a set of useful conventions for defining disorders that has improved our reliability (Frances, Widiger & Fryer 1990 pp.57-58).
>
> A naïve and mistaken view of comorbidity might assume that a patient assigned more than one descriptive diagnosis actually has multiple independent conditions… 'having' more than one DSM-IV diagnosis does not mean that there is more than one underlying pathophysiological process. Instead, DSM-IV diagnoses should be considered descriptive building blocks that are useful for communicating diagnostic information (First, Frances and Pincus 1995 p.13).

These texts suggest that the DSM diagnoses should not be understood as having a one-to-one relationship with the mental disorders that someone 'has'. Frances' conceptualisation of the DSM clearly differed from Spitzer's. It's doubtful, though, whether Frances' conceptual views had much direct impact on the DSM-IV. While the conceptual structure of the DSM-III and III-R was controlled by Spitzer, Frances allowed DSM-IV working groups much greater autonomy, and the DSM-IV was the product of committee decisions (Horwitz 2021 p.87).

By the time the DSM-IV was developed, the DSM had become a large and complex classification that had become increasingly 'locked-in' and resistant to change (Cooper

2015). For the most part, the treatment of exclusion rules in DSM-IV was carried over from DSM-III-R. Much of the introductory text was simply copied. Like the DSM-III-R, the DSM-IV instructed that organic conditions pre-empt diagnoses of other mental disorders with the same symptoms (APA 1994 p.6) and stated that:

> When a more pervasive disorder (eg Schizophrenia) has among its defining symptoms (or associated symptoms) what are the defining symptoms of a less pervasive disorder (eg Dysthymic Disorder)… exclusion criteria appear[s] in the criteria set for the less pervasive disorder, indicating that only the more pervasive disorder is diagnosed' (APA 1994 p.6, this text is also repeated in APA 2000 DSM-IV-TR p.6)

5.6 Exclusion rules in DSM-5 (2013) and DSM-5-TR (2022)

The DSM-5 continued to include exclusion rules that outlawed particular diagnostic combinations. However, the introductory discussion of such rules was substantially changed from DSM-IV, and the text concerning the relationship between 'more pervasive' and 'less pervasive' disorders was deleted. The DSM-5 continued to note that 'The general convention in DSM-5 is to allow multiple diagnoses to be assigned for those presentations that meet criteria for more than one DSM-5 disorder' (APA 2013 p.21), although even this remaining text was omitted from DSM-5-TR. The end result is that although the sets of diagnostic criteria in DSM-5-TR continue to include a great many exclusion rules, the introduction to the classification now contains no information about the over-arching rationale behind the rules included.

To an even greater extent than the DSM-IV, the revision process for DSM-5 was decentralised and the extent to which the final classification reflects the views of the co-chairs is unclear (Horwitz 2021 p.125). We can note, though, that Darell Regier, co-chair for DSM-5, has a background in psychiatric epidemiology – a field that tends to value the collection of rich data and to prefer the use of multiple diagnoses to exclusion rules. Writing with co-authors, Regier has argued against the over-use of exclusion rules:

> At this time in the history of psychopathology research, there is no benefit in suppressing information on the co-occurrence of multiple disorders. Such complex diagnoses may represent multiple separate diagnoses, or they may represent different syndromes, or, at the very least, different subtypes of a

> disorder that may have different treatment responses (Regier, Burke & Burke 1990 p.120)

Although the DSM-5 (and DSM-5-TR) continue to include a great many exclusion rules, some restrictions included in the DSM-IV were deleted from the DSM-5. Of particular note, in the DSM-IV, ADHD could not be diagnosed in an individual with autism. Writing with co-authors, Regier condemned this exclusion as a 'remnant' of the abandoned DSM-III hierarchy, and noted that it had the unfortunate effect that insurance reimbursement would often be denied for the treatment of ADHD symptoms in autism (Regier et al 2011 p.xxiii). In DSM-5, the exclusion rule was removed and ADHD and autism spectrum disorders can be concurrent diagnoses. Another significant change was made to the exclusion criteria for generalized anxiety disorder. In DSM-IV, GAD cannot be diagnosed with major depression; in DSM-5, GAD and depression can be comorbid. Overall, the DSM-5 continued 'the historical trend in the DSM revisions since DSM-III… to reduce the number of exclusion criteria in disorders based on validity concerns' (First 2005 p.210).

5.7 The changing conceptualisation of exclusion rules in the DSM

Having traced the evolution of exclusion rules across the editions of the DSM, we have seen that understandings of such rules have shifted over time. The DSM-I had a conceptualisation of psychopathology whereby most patients were thought to suffer from one basic disorder, which might have other secondary symptom patterns 'superimposed'. In this system, patients would receive one basic diagnosis modified with qualifying phrases, eg 'Anxiety reaction with depressive features'. In ensuring compatibility with the ICD, the DSM-II dropped the use of such qualifying phrases. The DSM-II sometimes allowed for multiple diagnoses, but also ruled out some combinations with exclusion rules. Overall, guidance in the DSM-II was patchy and it was often left unclear whether diagnoses could be made together. In seeking to improve reliability, the DSM-III incorporated explicit sets of diagnostic criteria which often incorporated exclusion rules. The DSM-III adopted a hierarchical approach to diagnosis, which it understood to be grounded in empirical facts about the distribution of psychiatric symptoms. In practice though, the DSM-III struggled to consistently operationalise the supposed hierarchy, and the orderings of the hierarchy came to be contested. From the DSM-III-R onwards, the introductory text has placed less and less emphasise on exclusion rules and hierarchies. Key figures involved in DSM revisions (Spitzer, Frances and Regier) have had very different conceptualisations of exclusion rules and comorbidity, and so the absence of

discussion should not be taken to signal agreement. In the most recent editions of the DSM, a great many exclusion rules remain, but the classification now lacks a general rationale for these rules.

6. Diagnostic exclusion criteria – possible grounds

The present edition of the DSM continues to include a great many exclusion rules but the introductory text provides no overall rationale for the rules that are included. In this section, I will map out a framework for thinking through the possible grounds on which exclusion criteria might be justified. Using examples, I will show that the DSM currently includes exclusion criteria grounded in a variety of different types of consideration.

In general terms we can distinguish between possible metaphysical, epistemic and pragmatic justifications for exclusion rules:

Metaphysical – it is believed that the nature of reality means that it is impossible for a person to suffer from both disorder A and disorder B.

Epistemic – it is believed that the nature of reality is such that it is possible for someone to suffer from both disorder A and disorder B. However, disorder B cannot be identified (at all, or not reliably) when disorder A is present.

Pragmatic – it is believed that the nature of reality is such that it is possible for someone to suffer from both disorder A and disorder B, and that, epistemically, it is possible to identify disorder B in the presence of disorder A. However, for pragmatic reasons it is thought best if a clinician does not diagnose diagnosis B when diagnosis A has been made.

The various possible rationale are most easily discussed in reverse order.

6.1. Exclusion rules justified on pragmatic grounds

When exclusion rules are justified on pragmatic grounds, practical considerations mean that it is thought best not to make diagnosis B in cases where diagnosis A has already been made.

For example, in certain contexts, exclusion rules may be justified because the bureaucracies that process diagnostic information may be unable to cope with multiple diagnoses (Pincus, Tew & First 2004). The DSM-I includes detailed instructions on how mental hospitals should maintain and process patient records (APA 1952 pp.52-72). Elaborate systems employed

different coloured punched cards, designed for use with sorting and tabulating machines. These paper-based systems could generally only cope with one diagnosis per patient. In situations when only one diagnosis is allowed it makes sense for only the most serious diagnosis to be recorded, as the patient's prognosis and treatment will be more determined by the more serious condition (Kendell 1975 p.103). Such pragmatic considerations justified the use of a diagnostic hierarchy in DSM-I which determined the primary diagnosis (organic trumps psychoses trumps neuroses). Such rules were required to ensure that different clinicians would record the same 'basic diagnosis' for each patient.

Another type of case where pragmatic considerations can ground exclusion rules can arise when the major aim of diagnosis is to guide treatment. If the usual treatment for Disorder A might be expected to also treat Disorder B, there may be no point in making Diagnosis B in cases where Diagnosis A has already been made. Historically, in the days when psychiatrists conceived of drugs as being either 'major' or 'minor' tranquilisers, treatments for psychoses and neuroses were sometimes conceived of in this way. Psychoses would be treated with 'major tranquilizers', which were thought of as being more powerful variants of the 'minor tranquilizers' used to treat neuroses (Healy 2002 p.99). Chlorpromazine, for example, was marketed under the brand name Largactil, implying 'large action' (Healy 1997 p.181). In so far as Largactil was thought to treat all neuroses, once an individual had been diagnosed with schizophrenia there would be no point in making any such additional diagnoses.

The current DSM includes some exclusion criteria that are best understood as being based on pragmatic considerations. The diagnostic criteria for Pica include criterion D 'If the eating behaviour occurs in the context of another mental disorder (eg. …autism spectrum disorder…), it is sufficiently severe to warrant additional clinical attention' (APA 2022 p.371). The notion that only symptoms that 'warrant additional clinical attention' justify a second diagnosis is an example of an exclusion criterion being written in line with pragmatic considerations.

In the case of Pica, pragmatic considerations determine whether or not a separate diagnosis is given. When a second diagnosis is useful, it can be given; when it isn't useful, then it isn't required. Sometimes a patient will receive two diagnoses, A and B, even though they are only thought to have one disorder, A. As with the Pica example, treatment considerations often play a role in such cases. Sometimes a second diagnosis, B, can be used to draw attention to the fact that the symptoms signified by B will require separate treatment, even though these

symptoms are thought to be a mere aspect of disorder A (as opposed to indicating that the patient literally has two disorders, A and B) (as discussed by First 2005).

Pragmatic considerations will commonly vary with the context and aim of classification: While systems based on punched cards may only be able to deal with one diagnosis per patient, computerized record systems can cope with many diagnoses. The treatments that are available also vary over time and with context. When a classification system includes exclusion criteria on the basis of pragmatic considerations it can be expected that these will need to be revised when the classification comes to employed in settings other than those for which it was designed.

6.2 Exclusion rules justified on epistemic grounds

Exclusion rules might be justified on epistemic grounds, that is on the basis of concerns about what it is possible to know. Such rules would be used where Diagnosis B cannot be made reliably in cases where Diagnosis A had already been made.

Consider, for example, the relationship between intellectual disability and delusions. Presumably, intellectual disability does not protect against someone suffering from delusions. However, in cases where intellectual disability is sufficient to make conversation difficult, it might be that delusions cannot be reliably identified in people with intellectual disabilities. Presumably following such thinking, the DSM-III did not allow schizophrenia to be diagnosed in people who had been diagnosed with mental retardation (APA 1980 p.190). The DSM-III-R continued to urge caution in such cases and says,

> Both diagnoses should be made in the same person only when there is certainty that the symptoms suggesting Schizophrenia, such as delusions and hallucinations, are definitely present and are not the result of difficulties in communication (APA 1987 p.193)

A related example can be found in the current edition, DSM-5-TR. The diagnostic criteria for schizophrenia include criterion F 'If there is a history of autism spectrum disorder…the additional diagnosis of schizophrenia is made only if prominent delusions or hallucinations, in addition to the other required symptoms of schizophrenia, are also present for at least 1 month' (APA 2022 p.114). Here the idea is that schizophrenia can be harder to recognise in people with autism and so the

diagnostic criteria make it harder to diagnose schizophrenia in people with autism on epistemic grounds, to reduce the chances of false positives.

Whether exclusion criteria will be justifiable on epistemic grounds will vary with the context of use of a classification. In some contexts, a diagnosis must be made after a short diagnostic interview, in others more prolonged interaction with a patient may be assumed. As with exclusion criteria that are justified on pragmatic grounds, when a classification system employs exclusion criteria that are justified on epistemic grounds, it can be expected that revisions may be necessary when the classification comes to be employed in a different setting from that for which it was designed.

6.3 Exclusion rules justified on metaphysical grounds

When exclusion rules are justified on metaphysical grounds, it is thought that facts about the nature of psychopathology mean that it is impossible for an individual to have two disorders, disorder A and disorder B, at the same time. There are two types of case. It might be held that disorder A and disorder B cannot co-occur because the causal grounds of the conditions are incompatible. Alternatively, it might be that disorder A and disorder B cannot co-occur as separate disorders because these are labels for different aspects of one single disorder.

Cases where the causal underpinnings of psychopathology mean that disorder A and disorder B will never co-occur (like high and low blood pressures cases) were discussed in section 3.2. We can recall that exclusion rules will not be required in such cases. Exclusion rules only have a role to play where a clinician is faced with a temptation to make some combination of diagnoses which thus needs to be outlawed.

Exclusion rules are required in the second type of case where it is thought that diagnosis A and diagnosis B cannot co-occur as separate disorders because these are labels for different aspects of one single disorder. This can arise in several different ways:

6.3.i. Diagnosis A and diagnosis B are labels for different time slices of the same disorder

In some instances, DSM codes are mutually exclusive because different diagnoses are given to different developmental stages of what is presumably the same pathological process: one code is for early manifestations of the condition, another for the ‘mature’ disorder, and another for later manifestations of the same condition. Exclusion criteria justified on such grounds can be found in all editions of the DSM.

The introduction to the DSM-I explains that certain diagnoses are incompatible because 'Many conditions may progress from one to another but are not present simultaneously' (APA 1952 p.46). An example is the DSM-I diagnosis '000-x29 Schizophrenic reaction, residual type' which is

> to be applied to those patients who, after a definite psychotic schizophrenia reaction, have improved sufficiently to be able to get along in the community, but who continue to show recognizable residual disturbance (APA 1952 p.28)

In the DSM-I, schizophrenic reaction, residual type cannot be diagnosed concurrently with another schizophrenic reaction because it is conceptualised as being a label for a later time-slice in the same pathological reaction. In the DSM-5-TR, the relationship between conduct disorder and antisocial personality disorder offers a similar example. The two are conceived of as developmental stages of the same underlying condition. While conduct disorder is a diagnosis for children, antisocial personality disorder is a diagnosis that can only be made in adults who had an earlier diagnosis of conduct disorder in childhood (APA 2022 p.748).

6.3.ii. Diagnosis A and diagnosis B are labels for different severities of the same disorder

Some DSM diagnoses cannot be made together because they are labels for essentially the same disorder that can occur with different severities. Tic disorders in DSM-5-TR provide an example. There are three related possible diagnoses. Tourette's disorder involves both multiple motor and also vocal tics which have persisted for at least one year. Persistent motor or vocal tic disorder involves either motor or vocal tics but not both, again for more than a year. The third diagnosis, provisional tic disorder, involves tics of less than one year's duration. The diagnostic criteria for persistent motor or vocal tic disorder include criterion E 'Criteria have never been met for Tourette's disorder'. Similarly, the criteria for provisional tic disorder require that 'Criteria have never been met for Tourette's disorder or persistent (chronic) motor or vocal tic disorder' (APA 2022 p.93). These diagnoses cannot be made together because they are conceptualised as labels for different severities of what is taken to be the same underlying pathological process.

6.3.iii. When symptoms suggestive of diagnosis B occur in an individual with diagnosis A, they should be thought of as a part of disorder A rather than as a distinct disorder.

Some DSM diagnoses cannot be made together because when symptoms suggestive of diagnosis B occur in an individual with diagnosis A, they should be thought of as a part of disorder A rather than as a distinct disorder.

The most straightforward examples arise where the symptoms of one disorder are a subset of those included in the diagnostic criteria for another. The diagnostic criteria for major depressive disorder are a subset of those for bipolar disorder (APA 2022 pp. 139-141, p.183), the difference being that those with bipolar disorder experience both manic and depressive episodes, while those with major depressive disorder have only depressive episodes. A depressive episode in someone diagnosed with bipolar disorder is thought of as being part of the bipolar disorder and as such does not warrant an additional diagnosis. Accordingly, the diagnostic criteria for major depressive disorder include criterion E 'there has never been a manic episode or a hypomanic episode [unless due to substance use]' (APA 2022 p.183).

Mild depressive symptoms occurring in schizophrenia provide a slightly more complex example. In such a combination, only schizophrenia is diagnosed. However, depressive symptoms do not feature in the diagnostic criteria for schizophrenia, as such, in this case, the justification for a sole diagnosis cannot be that depressive symptoms are part of schizophrenia by definition. The DSM-5-TR advises 'Most commonly, such depressive symptoms can be considered associated features of these disorders and do not merit a separate diagnosis.' (APA 2022 p.191). Presumably, the underlying idea is that depressive symptoms are so common in schizophrenia that they can be assumed to be part of the schizophrenic disease-process. Such assumptions about etiology can be expected to be controversial. In this instance, some suggest that high rates of depressive symptoms in those with schizophrenia might instead be caused by the stresses of living with a chronic and stigmatised condition as opposed to being part of schizophrenia itself (for a review see Bermazohn et al. 2000).

As the above examples illustrate, the idea that some symptom patterns occur as a mere part of a more pervasive disorder and do not merit separate diagnosis makes sense, and seems appropriate in some cases (such as a depressive syndrome in bipolar disorder). However, determining when such rules should be applied is difficult. Figuring out whether, say depressive symptoms, or anorexia, or obsessions, should be considered a mere part of a 'pervasive' disorder, such as schizophrenia, or diagnosed separately is bound to be a theory-laden and contested decision.

7. Hard Decisions – Weighting Different Considerations and the Context-Dependence of Exclusion Rules

At present, the DSM includes some exclusion rules that are grounded in pragmatic considerations, some that are grounded in epistemic considerations, and some that are grounded in metaphysical considerations. These different types of consideration can sometimes be in conflict, leading to difficult questions about which should be prioritised.

Consider the relationships between borderline personality disorder and binge eating or substance abuse. The DSM-5-TR diagnostic criteria for borderline personality disorder count behaviours relating to impulsivity as symptoms (APA 2022 p.762), and list binge eating and substance abuse as possible examples. Given that binge eating and substance abuse can contribute towards a diagnosis of borderline personality disorder, it would seem reasonable to consider these symptom-patterns to be part of borderline personality disorder, in the same type of way that a depressed episode is counted part of bipolar disorder. However, while the DSM notes that 'Binge-eating behaviour is included in the impulsive behaviour criterion that is part of the definition of borderline personality disorder' it instructs 'If the full criteria for both disorders are met, both diagnoses should be given' (APA 2022 p.396). Along similar lines, substance use disorders can also be diagnosed in people with borderline personality disorder. In this instance, symptom patterns that are conceived of as parts of a more pervasive disorder are still given separate diagnoses, most likely to flag up that these impulse control problems may require independent treatment (Skodol 1989 p.145). In this case, pragmatic considerations trump metaphysical considerations.

Such judgements are bound to be controversial. In other seemingly parallel cases, the DSM ranks considerations about treatment needs against metaphysical considerations differently. The substance use of someone with borderline personality disorder may require additional treatment, but so too can depressive symptoms in schizophrenia (Bermanzohn et al 2000, Siris 1991). But, while the person with borderline personality disorder and substance use receives two diagnoses, the person with schizophrenia and depressive symptoms receives only one. These contrasting cases bring out that different types of consideration can pull against each other. Whether the DSM should allow two diagnoses to be made together, or include an exclusion rule, will often require committees to make a judgement call.

When exclusion rules are justified on pragmatic or epistemic grounds it is reasonable to expect that they should depend on the context in which a classification is to be employed. Relatedly, decisions about how best to weight conflicting considerations will also need to be context dependent. As a consequence, classifications that are designed for different purposes will tend to favour different exclusion rules.

The treatment of exclusion rules in classification systems designed for research offers a nice example of the context-dependence of exclusion rules. Some research seeks to understand the etiology of particular disorders, or aims to refine treatments for particular conditions. In such research, those making diagnoses tend to prioritise the avoidance of false positive diagnoses – they want to ensure that the people they study all really do have the condition under investigation, but don't much care if some people who have the condition under study are left out of their research samples (Boyd et al. 1984 p.984).[2] Accordingly, as a classification designed for this type of research, the Feighner et al 'Diagnostic Criteria for Use in Psychiatric Research' (1972) are full of exclusion criteria, and in this system many diagnoses are only permitted in the absence of any other know mental disorder.

Other types of research can require a different approach. Researchers in psychiatric epidemiology have tended to value the collection of rich data. They worry more about false negatives than false positives and thus prefer to employ minimal exclusion rules and to instead make multiple diagnoses. Accordingly, some epidemiological studies (such as the NIMH Epidemiologic Catchment Area Study) have used DSM diagnostic criteria but without employing the diagnostic exclusion rules (Regier, Burke and Burke 1990 p115).

The exclusion criteria that a classification should employ will vary with context for two reasons: 1. epistemic and pragmatic considerations will be context dependent, and 2. the optimal weighting of different types of consideration (pragmatic, epistemic and metaphysical) will also vary with setting. The DSM, though, has come to be used internationally and is designed for multiple purposes. This can be expected to lead to difficulties. As the DSM exclusion criteria have to be 'good enough' for many purposes they cannot be optimised with any particular use in mind.

[2] Returning to the framework of considerations developed in the previous section (pragmatic, epistemic and metaphysical), when researchers prioritise either avoiding false-positives or false-negatives the considerations in play are pragmatic, having to do with the practical requirement of research, although the final objective of research may be to gain knowledge.

8. Ways forward and their difficulties

Looking to the future, and given the problems of determining exclusion criteria, how might future editions of the DSM be improved? Slight but easy progress might be made via better house-keeping. The text could be revised to make it clearer exactly when one diagnosis should preclude another. At present, some exclusion criteria are explicitly included in the sets of diagnostic criteria, while others are mentioned only in passing in the surrounding text. Common formatting would help guard against the risk of exclusion criteria being missed by busy readers. Including some indication of the rationale for each exclusion criteria would also be useful. As discussed, at present some exclusion criteria are justified on pragmatic grounds, while others have an epistemic or metaphysical rationale. Making the basis of each exclusion rule clear would help readers know whether it might be appropriate to ignore an exclusion rule in special contexts or whether it should always be followed: notably, pragmatic and epistemic justifications will tend to be context-dependent. Such textual clarifications would enable some minimal progress. Fundamentally, though, such minor changes would leave the core difficulties around exclusion rules untouched; it would often still be unclear how the exclusion rules for the DSM should be determined.

Given the problems caused by exclusion criteria, it might be tempting to think that the DSM should be revised to minimise their use. Why not employ a system with very limited exclusion criteria (maybe only those that have a relatively uncontroversial metaphysical basis) and allow combinations of diagnoses with few restrictions? Or, why not return to a DSM-I style approach and record a predominant disorder while also noting all other symptom patterns that might also be present?

It should be noted that revising the DSM to minimise the use of exclusion rules would be a very radical revision and would result in diagnoses that looked very unlike those currently given. Without exclusion rules, individual patients would receive many more diagnoses, or long and convoluted formulations – either of which might suggest that psychiatric diagnoses are maybe not all that like other medical diagnoses. The exclusion rules of the DSM ensure that individual patients receive only a smallish number of seemingly distinct diagnoses. This helps psychiatric diagnoses to look like somewhat like those from other areas of medicine.

Moving to a classification with minimal exclusion rules would be reputationally risky for psychiatry (as also noted by Aragona 2009). We can note that, although the DSM currently includes many exclusion rules that limit the numbers of diagnoses that patients receive, high comorbidity rates have already become an embarrassment. Indeed, in the early 2000s, as work began on developing the DSM-5, the American Psychiatric Association itself accepted that the DSM-system faced a crisis, of which high comorbidity rates were one indication. *A Research Agenda for DSM-V* (2002),[3] published by the American Psychiatric Association, commented that 'Epidemiologic and clinical studies have shown extremely high rates of comorbidities amongst the disorders, undermining the hypothesis that the syndromes represent distinct disorders' (Kupfer, First & Regier 2002 p.xviii). In the early 2000s, the American Psychiatric Association felt it could afford to criticise the DSM-IV. At the time, it was optimistic that some paradigm-shift would occur, which it expected would enable the DSM-5 to be designed on new and firmer foundations. In the event, however, there was no paradigm-shift. As eventually published, the DSM-5 remained very similar to the DSM-IV, and, as such, high comorbidity continues to be a worry.

The exclusion rules included in the DSM are currently a weak spot in the system – hard to fully justify, but also necessary if anything like the current system of diagnosis is to be maintained. Key psychiatrists involved in the development of the DSM are cognizant of the difficulties posed by exclusion rules, and some conclude that DSM-diagnoses should not be understood as having a one-to-one correspondence with distinct disorders (First 2005; First, Frances and Pincus 1995). However, in the philosophy of psychiatry, those writing on natural kinds have so far overlooked the role played by exclusion rules in psychiatric nosology.

I suggest that problems have emerged because philosophers seeking to develop accounts of natural kinds fitted for thinking of mental disorders have taken accounts of natural kinds developed for thinking about biological kinds as their starting point. Simultaneously, philosophers of psychiatry have operated with a somewhat impoverished model of biological classification. A common strategy has been to start by asking whether the similarities and differences between types of mental disorder might be like those between types of multicellular macroscopic animal species. Thus Cooper (2007) begins by asking whether types of mental disorder might be naturally distinct in the way that 'ladybirds' and 'elephants' are distinct (pp.50-51). For Kendler, Zachar & Craver (2011) the comparators are

[3] Between early development and publication, the DSM system switched from using Roman to Arabic numbers. As such, *A Research Agenda for DSM-V* finally resulted in the publication of DSM-5.

‘grey squirrels, humpback whales, lions’ (p.1146). Beebee and Sabbarton-Leary (2010) compare Tourette’s or bipolar disorder to the natural kind ‘cat’ (pp.22-23). The problem with such a starting point is that it acts to obscure the difficulties of individuating instances of mental disorders. Middle-sized biological organisms like ladybirds, elephants, squirrels and whales appear to be types of entity that can be clearly individuated and then classified. A zoologist can see three individual cats (call them Teddy, Sarah and Larry), and determine that they belong to three species (maybe, Teddy is a tiger, Sarah a snow leopard, and Larry a lion). Building on such a model, the philosophical literature on whether there are natural kinds of mental disorder has taken it for granted that we have some idea what should count as an instance of a particular mental disorder, say, social anxiety disorder. Debate has then hinged on whether instances of social anxiety disorder are fundamentally similar enough to each other for social anxiety disorder to count as a natural kind. Our investigation of exclusion rules shows that the difficulties around taking DSM disorders to be natural kinds often run much deeper than debates to date suggest. Currently, it’s often unclear what should be counted as an instance of a condition like social anxiety disorder. When someone has the symptoms of social anxiety disorder in the context of another mental disorder, we are currently unsure whether this should be counted as an instance of social anxiety disorder or dismissed as a mere part of another disorder (say schizophrenia or depression).

A fundamental problem is that in psychiatric classification, it is unclear how we can individuate the entities to be classified. When the DSM struggles to determine metaphysical exclusion rules, it’s as if a zoologist were unsure whether they had three individual organisms to classify, or maybe just one, or two, and also some organism-parts. It’s as if they were uncertain whether Sarah should be considered a separate creature, or maybe just one of Freddy’s paws, or Larry’s tail.

I suggest that philosophers of psychiatry have been misled by developing their accounts on a model of biological classification that assumes that biological organisms can be straightforwardly individuated. Actually, some work in philosophy of biology argues that biological individuation can also be problematic, and, properly understood, biological classification may face problems analogous to those that arise when classifying mental disorders (Dupré 2012; Wilson & Barker 2023). My claim is not that issues with the individuation of ‘basic entities’ do not arise in biological classification, but rather than philosophers of psychiatry have operated with an overly simplified model of biological

classification that presupposes that such issues do not arise - and this has led to such issues being overlooked when they have gone on to develop accounts of psychiatric classification.

On some proposals, the way to escape problems with determining DSM exclusion rules would be to move towards systems that do without what Kathryn Tabb (2015, 2019) calls 'diagnostic kinds' (ie DSM-style categories) altogether. In some systems under development for research use, such as HiTOP and RDoC, diagnostic kinds play no major role and the focus is instead on transdiagnostic symptoms or neurological systems.

In the future, a researcher might study transdiagnostic symptoms and study people with 'emotion dysregulation' or 'social anhedonia' rather than those with 'schizophrenia' or 'major depression'. In such a system, it would no longer be necessary to work out how many diagnoses someone should be given, and the problem of whether someone who is depressed and has schizophrenia should receive one or two diagnoses would not arise.

Nevertheless, even in a system which records symptoms rather than diagnoses, the basic puzzles discussed in this paper are not dissolved but may merely take a different form. In a system such as the DSM, when someone has symptoms suggestive of multiple conditions, it is necessary to decide how many disorders to diagnose. In a system that focusses on symptoms, it is necessary instead to decide on individuation criteria for symptoms – which can sometimes be just as problematic (Fellowes 2017). Take someone who under DSM would be diagnosed with schizophrenia and who also has symptoms of depression; when they engage in activities that once made them happy, they feel flat. Should such a person be counted as having 'negative symptoms', or 'diminished pleasure', or both? Is a failure to smile in the context of psychotic symptoms the same symptom, or a different symptom, from a failure to smile in the context of depressive symptoms? Moving to a system of recording symptoms reshapes but does not resolve the basic difficulties that emerge in seeking to individuate the 'building blocks' of psychopathology.

At root it may be that disorders and symptoms are hard to individuate because these are abstract entities. It might be hoped that someday the causal processes that underpin different disorders will be discovered. Potentially, individuation might be easier in a classificatory system that appealed to neurological systems or underlying pathophysiological mechanisms. However, although progress in such directions is a possibility, at present there is little basis for optimism. Psychopathology may be a domain in which the underlying causal processes themselves turn out to be messy, interconnected and hard to differentiate (Kendler, 2008,

2012; Maung, 2016), and individuating causal mechanisms may itself be a matter for decision as much as discovery (Craver 2009, Zachar 2014a).

At present, the prospects for understanding the DSM, or any foreseeable successor system, as a classification that classifies cases into 'natural kinds' of mental disorder, on the model of a classification, which say, sorts biological individual into species, look bleak. One possibility might be to move away from understandings of psychiatric classification that think of classification as seeking to discover natural kinds altogether. Alternative approaches might instead view classification more as a matter of construction than discovery, and emphasize the importance of idealization, choice and model-building - both when it comes to individuating the 'basic entities' to be classified and also when it comes to determining the kinds into which such entities might be sorted. A number of authors have started to develop 'pragmatist' (Zachar 2002, 2014b, Gagné-Julien & Bérubé 2023) or 'model-based' (Murphy 2006, Ross 2014, Kind 2025) approaches to psychiatric classification. Amongst the best developed of such approaches, Sam Fellowes (2025) develops a neo-Kantian approach to psychiatry, whereby both psychiatric classifications but also the individuation of instances of disorder and of symptoms becomes a matter of model-construction.

To conclude, exclusion rules currently play a crucial role in the DSM but are often hard to justify. Exclusion criteria can have various rationale, but these tend to either depend on high-level theory (about etiology, but also the basic metaphysics of psychopathology) or will vary radically with the context of use. This creates problems for the DSM, which is a multipurpose classification and seeks to avoid controversial ontological or etiological commitments. Additional difficulties arise because different considerations can pull in different directions and whether two diagnoses should be deemed compatible or prevented by exclusion rules will often require a judgement call. The problems around exclusion rules are intractably difficult. It is not currently possible to have a reliable and valid classification of mental disorders, which at the same time avoids controversial claims about etiology and is suitable for use in a variety of contexts. More fundamentally, the difficulties around determining exclusion rules show that at present DSM categories are often very far from being natural kinds of disorder.

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