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REVIEW ARTICLE

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# Models of mental health problems: a quasi-systematic review of theoretical approaches

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**ABSTRACT**

**Background:** Mental health and mental illness have been contested concepts for decades, with a wide variety of models being proposed. To date, there has been no exhaustive review that provides an overview of existing models.

**Aim:** To conduct a quasi-systematic review of theoretical models of mental health problems.

**Methods:** We searched academic databases, reference lists, and an electronic bookshop for literature that proposed, endorsed, reviewed, or critiqued such models. Papers, book chapters, and books were included with material by researchers, clinicians, non-medical professions, and service users writing between 2000 to June 2020 being considered. The study was registered with the Open Science Framework (No. osf.io/r3tjx).

**Results:** Based on 110 publications, we identified 34 different models which were grouped into five broader categories. Many models bridged two or more categories. Biological and psychological approaches had the largest number of models while social, consumer and cultural models were less diversified. Due to the non-empirical nature of the publications, several limitations in terms of search and quality appraisal apply.

**Conclusions:** We conclude that mental health care needs to acknowledge the diversity of theoretical models on mental health problems.

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## Introduction

Mental health and mental illness have been contested concepts for decades, if not centuries. Scholars from medical and non-medical disciplines, such as psychiatry, psychology, biology, neurology, philosophy, sociology, and medical history have tried to answer questions about the essence of mental health, the cause of mental health problems, and how to classify or operationalize them. In recent decades, a variety of theorists with differing backgrounds and traditions have debated the pros and cons of paradigms, approaches, and models.

Whilst the 1940s to 1970s were dominated by psychoanalytic and social theories, this changed during the 1980s and 1990s, with biomedical models becoming central to research and treatment and the 1990s being declared the "Decade of the Brain" by the United States Congress (Nature, 1992; Science, 1990). Although the discipline of psychiatry moved into the medical mainstream in the 2000s, issues around how mental health problems should be understood became more disputed. By the time that the fifth edition of the American Psychiatric Association's Diagnostic and Statistical Manual (DSM-5) was published (APA, 2013), many commentators were arguing that basic conceptual issues about the nature of mental illness remained unsolved (Stephan et al., 2016).

Until relatively recently, major criticisms related to the concept of mental illness came from outside of the biomedical community; being levelled by critical psychiatrists and sociologists questioning the validity of psychiatric categories and the legitimacy of psychiatric power (Foucault, 1961; Goffman, 1961; Haldipur et al., 2019). Now, disputes have emerged within this community. This was illustrated through the launch of the Research Domain Criteria (RDoC) in 2009, in which the American National Institute of Mental Health caused controversy by explicitly questioning DSM validity shortly before the DSM-5 was released (for an overview, see Kozak & Cuthbert, 2016).

The key areas in which theoretical and empirical differences have emerged within the biomedical community are (1) dimensions *vs.* categories of symptoms, (2) thresholds between health and illness, (3) etiology of mental disorders, and (4) comorbidity of distinct disorders (Clark et al., 2017). Furthermore, new debates are emerging about how mental

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Supplemental data for this article is available online at here.

This article has been corrected with minor changes. These changes do not impact the academic content of the article.

health problems should be classified. New psychopathological research focussing on comorbidity suggests that there are probably one to ten dimensions of psychopathology, rather than several hundred discrete disorders (Caspi & Moffitt, 2018; Kotov et al., 2017). The range of theoretical and historical approaches has been reviewed within several scholarly disciplines (e.g. Gomory et al., 2013; Radden, 2019b; Weiss & Somma, 2007; Zachar & Kendler, 2007). Additionally, the topic has been covered within monographs (e.g. Bolton, 2008; Graham, 2013), anthologies (e.g. Fulford et al., 2013), and even a large book series (International Perspectives in Philosophy and Psychiatry by Oxford University Press). These reviews have usually focused on specific aspects of concepts of mental health problems, e.g. on historical or taxonomic characteristics.

Whilst previous reviews have been valuable, practical considerations associated with concepts of mental health problems remain. Questions, such as "what are mental health problems?" or "what counts as a mental illness?" are highly practical and are relevant to social institutions both in and outside of mental health care. For example, the variety of illness models has led to tensions between professions within health care systems (Dixon & Richter, 2018). Disagreements about the nature of mental health problems may also lead to disputes about how behaviours, such as aggression are interpreted by service users and staff (Nolan et al., 2009).

Definitions of mental health problems also have legal and policy implications. For example, a recent research article on definitions of mental disorder in legal contexts came to the conclusion that whilst current illness models "… refer to something 'not working properly' in the mind, it is difficult to specify exactly what [this] means." (Walvisch, 2017). Definitions of mental health problems also have relevance for policy makers, who need to consider whether mental health problems are increasing and whether money should be spent on preventing them.

Publications on mental health models are rising steeply and new communities and sub-communities debating them are emerging. Consequently, a review of recent approaches giving an overview of what is being proposed and discussed is needed. To the best of our knowledge, there are no exhaustive reviews that cover the entire range of perspectives. This quasi-systematic review aims to close this gap by providing a comprehensive overview of models of mental health problems whether they originate from the scientific community or through groups that have traditionally been neglected (e.g. publications by service users). We define "models" as approaches that aim to explain and/or describe either mental health problems in general or a particular mental health problem from a certain perspective.

The inclusion of perspectives by service users is an important but neglected issue for two reasons. Firstly, these perspectives are highly relevant to the topic of mental illness, particularly in the fields of law and politics. For example, the "United Nations Special Rapporteur on the right of everyone to the enjoyment of the highest attainable standard of physical and mental health" has recently urged parties to welcome "… a diversity in terminology, which can promote different approaches to mental health that are equally important." (United Nations, 2019, p. 3). Secondly, science-based approaches are frequently challenged by non-academic positions as the service user or even survivor perspectives are often not sufficiently represented in the discourse, an issue that is commonly referred to as "epistemic injustice" (Crichton et al., 2017).

The language used to describe mental health problems varies widely across publications. Whilst concepts of mental illness and mental disorder remain dominant within the literature, many scholars question the concept of mental illness entirely. To allow for a broad and pragmatic discussion of the literature we, therefore, adopt the term "mental health problems" in this article. To aid ease of reading but not at the expense of content, we use this term throughout, although authors may have used other terms within their own writing.

## Materials and methods

We adopted a quasi-systematic literature review approach. This method has been used previously, where it has been beneficial to use systematic search methods to review the literature, but where it has not been possible to follow all stages of the systematic review process (Magdaleno et al., 2012; Travassos et al., 2008). Our study utilized a systematic search and data extraction strategy, following the Preferred Reporting Items for Systematic Review and Meta-analyses (PRISMA) procedure (Moher et al., 2009). However, it was not possible to undertake a risk of bias assessment, due to the nature of the material. As papers were theoretical in nature, and as we were more interested in the heterogeneity of models rather than theoretical and scientific rigour, we did not carry out a quality appraisal. Researchers face several challenges when conducting a systematic or even a quasi-systematic review of theories, models, and approaches (Campbell et al., 2014). Many relevant publications are not indexed in research databases (e.g. book chapters and books) and search strategies are not straightforward. Another difficulty is the synthesis of sometimes incommensurable approaches. We found only one previous template for searches on theories (Booth & Carroll, 2015) This was not suitable for our project as it focused specifically on theories relating to "behaviors of interest" and "health contexts". We, therefore, had to acknowledge that there was a risk of not finding and retrieving all relevant publications. This was particularly true for publications that were not listed on the databases we used which contained predominantly medical and psychological publications.

For systematic reviews, it is commonly required to pre-register them at dedicated websites, such as the PROSPERO database of systematic reviews or the Open Science Framework to provide transparency on the intended search and extraction methods. As the PROSPERO database does not register non-empirical studies, the current research was registered with the Open Science Framework (registration

number: osf.io/r3tjx). Despite the limitations listed above, we adopted a rigorous approach to searching and extracting the data which we describe below.

### Search strategy and data extraction

A literature search was conducted on Pubmed, Cumulative Index for Nursing and Allied Health Literature (CINAHL), and PsycInfo. These databases were chosen because they were the three largest databases containing titles and abstracts relating to mental health problems and mental health care. Reference lists of retrieved publications were also searched. We also searched for books on Amazon.com to identify publications not listed on the databases above.

Publications were eligible for inclusion where the main focus was on a theory or model of mental health problems. We included papers, book chapters, and books where a theory or model of mental health was either proposed, endorsed, reviewed, or critiqued. We intended to identify all published models of mental health problems, including material written by clinicians, consumers, or survivors. In addition to peer-reviewed articles in academic journals, we accepted editorials, letters, books, book chapters, and online material as long as the publications contained sufficiently detailed information about the featured model(s). These formats were accepted because they are places at which models of mental health are frequently proposed and debated. All papers are written in English, German, French, or Dutch from 2000 onwards were eligible for inclusion. The search terminated on 30 June 2020.

We excluded empirical papers because they usually do not develop a theoretical approach but rather test it and primarily philosophical publications when we could not identify a link to mental health issues. For example, we rejected philosophical papers focusing on theories of consciousness. Exclusively taxonomic approaches, referring for example to "RDoc" or "HiTOP" (Clark et al., 2017; Kotov et al., 2021) were also excluded. We also excluded book reviews and historical articles. In some cases, an author or a group of authors had developed a theoretical model over time. Where this occurred, the most recent iteration of that theory or model was used and earlier versions were excluded.

The initial search process was conducted by [DR] and was cross-checked by [JD]. The following search terms were used for the Pubmed search: (((taxonom* [TI] OR model* [TI] OR concept* [TI] OR explanat* [TI] OR causal* [TI] OR framework* OR kind* [TI] OR theor* [TI] OR philosoph* [TI] OR approach* [TI] OR structur* [TI]) AND ("mental illness" [TI] OR "mental disorders" [TI] OR psychiatry* [TI] OR psychopathol* [TI] OR madness [TI]) NOT (animal OR mouse OR mice OR rat OR rodent OR structural equation OR latent class OR decision tree OR Bayes* OR Markov OR proof-of OR five-factor OR health belief OR fMRI OR hierarchical OR multilevel OR multivariate OR "theory of mind"))). The search term was technically adapted to the requirements of the other databases accordingly. The technical amendments were required, for example, for different truncation rules. Searches on Amazon used the terms above without exclusions I.e. combinations of "taxonomy", "model", "concept", "explanation", causal", "framework", "kind", theory", philosophy", "approach", "structure" AND "mental illness", "mental disorder", "psychiatry", "psychopatholgy", "madness", References were managed in Endnote.

A template was designed by the authors to extract data from papers. This recorded the type of output (whether this was an original article, chapter, letter, or editorial), the focus of the article (clinical practice, research, theory, consumer issues), the purpose of the article (proposal, endorsement, critique or review), and the model reviewed/key findings. The initial template was piloted and was then revised by the authors.

### Reporting of the results

Due to a large amount of information and due to its heterogeneity in terms of background (science, service user activism, etc.), we present our results on a graph (see Figure 2) which provides a broad overview of our findings. The labeling of the model and the subsequent grouping of the model into broader categories were conducted by consensus of the authors. We then provide brief details of every model identified (see Table 1). Details of all publications included in the synthesis are given as Supplementary Data.

## Results

Our search identified 3423 publications (research articles, book chapters, and books) from databases, from the screening of reference lists, hand-searches, and through searching Amazon.com (for details, see Figure 1). One-hundred-and-ten publications were eventually included in the synthesis.

We identified 68 articles, seven books, 33 book chapters, and two editorials from scientific journals. Ten publications took a pure research perspective, 21 a sole clinical perspective, and 25 an exclusively theoretical stance. As the numbers suggest, the remaining publications had multiple perspectives. Fifty-six publications proposed a model, 44 papers/books endorsed one, and 10 took a critical stance about a specific model. However, many publications that proposed or endorsed a model also comprised critical positions against other approaches. We identified 34 different models of mental health problems (see Figure 2). Details of the identified models are provided in Table 1. For a better understanding, we tried to relate each model to five broader categories: Biology, Psychology, Social, Consumer, and Cultural.

First, are models falling under the biology category; consisting of biology, neuroscience/neurobiology, computational neuroscience, gut microbiota, and systems/chaos theory. Authors proposing or endorsing a biology approach argue that a brain-based taxonomy for mental health problems is still lacking and that developments in this area will bring greater precision to psychiatry (Williams, 2016). Articles focusing on neuroscience or neurobiology argue for a study of the nervous system with a primary focus on the brain.

**Table 1.** Brief details of identified models.

| Model of mental health problem | Description |
|---|---|
| Anti-psychiatry | A critical approach that denies the existence of mental illness |
| Biology | A comprehensive but exclusively biological approach for understanding mental health problems |
| Biology—culture | A joint approach focussing on biological and cultural issues related to mental health problems |
| Biopsychology | Joint biological and psychological perspectives |
| Biopsychosocial/medical | Approaches that stress the interplay between biological, psychological, and social factors as a means to understanding mental health problems |
| Cognitive psychology | An approach that stresses the importance of internal mental processes for understanding mental health problems |
| Computational neuroscience | An approach that utilizes mathematical models and theories to understand the determinants of mental health problems |
| Critical realist | An approach that proposes the existence of a reality that is ontologically separated from experienced mental health problems |
| Developmental—biopsychosocial | Approaches that stress the interplay of biological, psychological, and social factors for understanding developmental mental health problems |
| Ethnopsychology | An understanding of mental health problems informed by the culture of particular ethnic communities |
| Evolutionary/Darwinian | Approaches that stress the evolutionary origins of mental health problems |
| Existentialism | A philosophically based approach that seeks to understand existential issues related to the human condition to understand mental health problems |
| Genetics—evolutionary | A joint approach that focusses on the interplay between genetic and evolutionary mechanisms which lead to mental health problems |
| Gut microbiota | A biological approach that stresses the importance of gut microbes for developing mental health problems |
| Mad studies/neurodiversity | Approaches that propose normalizing perspectives of mental health issues and which reject illness concepts |
| Network—psychology | An approach that explains mental health problems through mapping the interplay of psychological symptoms |
| Network/biopsychology | A joint network and biopsychological approach |
| Neurophenomenology | A joint neurological and phenomenological approach |
| Neuropsychology | Joint neurological and psychological approach for understanding mental health problems |
| Neuroscience/neurobiology | A neuroscientific and biological approach for understanding mental health problems |
| Phenomenology | An approach that understands mental health problems through analysing structures of consciousness and other mental phenomena |
| Power-threat-meaning framework | A model which views mental health problems as an understandable protective response to adverse environments. |
| Property cluster | An approach that proposes that networks of mechanistic clusters cause mental health problems |
| Psychoanalysis | A set of psychological theories, originating from Freud, which focuses on the role of the unconscious mind as the cause of mental health problems |
| Psychosocial | Joint psychological and social perspectives on mental health problems |
| Radical approach | An approach that asks for a radical liberatory change when dealing with mental health problems |
| Recovery | An approach aimed at enabling people with mental health problems to define what recovery means to them so they can live a meaningful life |
| Salutogenesis | An approach that endorses health and well-being rather than illness |
| Social disability | An approach that stresses the socially induced disabling constraints on people with mental health issues |
| Spiritual | A spiritual perspective on mental health problems |
| Systems/Chaos theory | Approaches that stress the non-deterministic emergence of mental health problems in biological and psychological realms |
| Theory development/application | Approaches that propose the need for new models of mental health problems through demonstrating fields of application |
| Traditional/spiritual | Traditional and spiritual perspectives on mental health problems |
| User/survivor studies | Approaches that stress the centrality of the experiences of people who have been treated in mental health services and are normally critical in nature. |

For example, Lydon-Staley and Bassett (2018) endorse the use of network neuroscience to identify biomarkers in psychiatry. Those endorsing computer neuroscience also advocate the use of neuroscience/neurobiology, arguing that this is best achieved through computer modelling. For example, Redish and Gordon (2016) argue that computational perspectives are fundamental to understanding the relationship between the mind and brain.

Second, are models adopted within the psychology category. These consist mainly of salutogenesis, cognitive psychology, psychoanalysis, network psychology, and existentialism. Those endorsing a salutogenic approach argue that a psychological well-being model should be used in preference to a psychopathological one (de Gonzalez, 2001). Those endorsing cognitive psychology models stress the importance of internal mental processes for understanding mental health problems. For example, Nielsen and Ward (2020) argue that the labelling of a particular set of behaviors as disordered is justified by a significant violation of functional norms of the person being diagnosed, as opposed to norms that are socially imposed. Psychoanalytic models draw from the theories of Freud and his followers, with authors arguing that these theories should be used in conjunction with psychopathological ones (Bell, 2010; Kobak & Bosmans, 2019). Network psychology explains mental health problems through mapping the interplay of psychological symptoms. Authors proposing this approach are critical of biologically focused models and argue for an alternative framework for analysis in which mental health problems are seen to arise from the causal interplay between symptoms (Borsboom et al., 2018). Existentialism is a philosophical approach that posits that the world has no objective or externally derived meaning and each individual is responsible for their own actions. Mental health scholars have drawn on this approach by proposing that existentialism should be used alongside phenomenological perspectives (focusing on structures of consciousness and other phenomena) to understand delusional beliefs (Osborne, 2016).

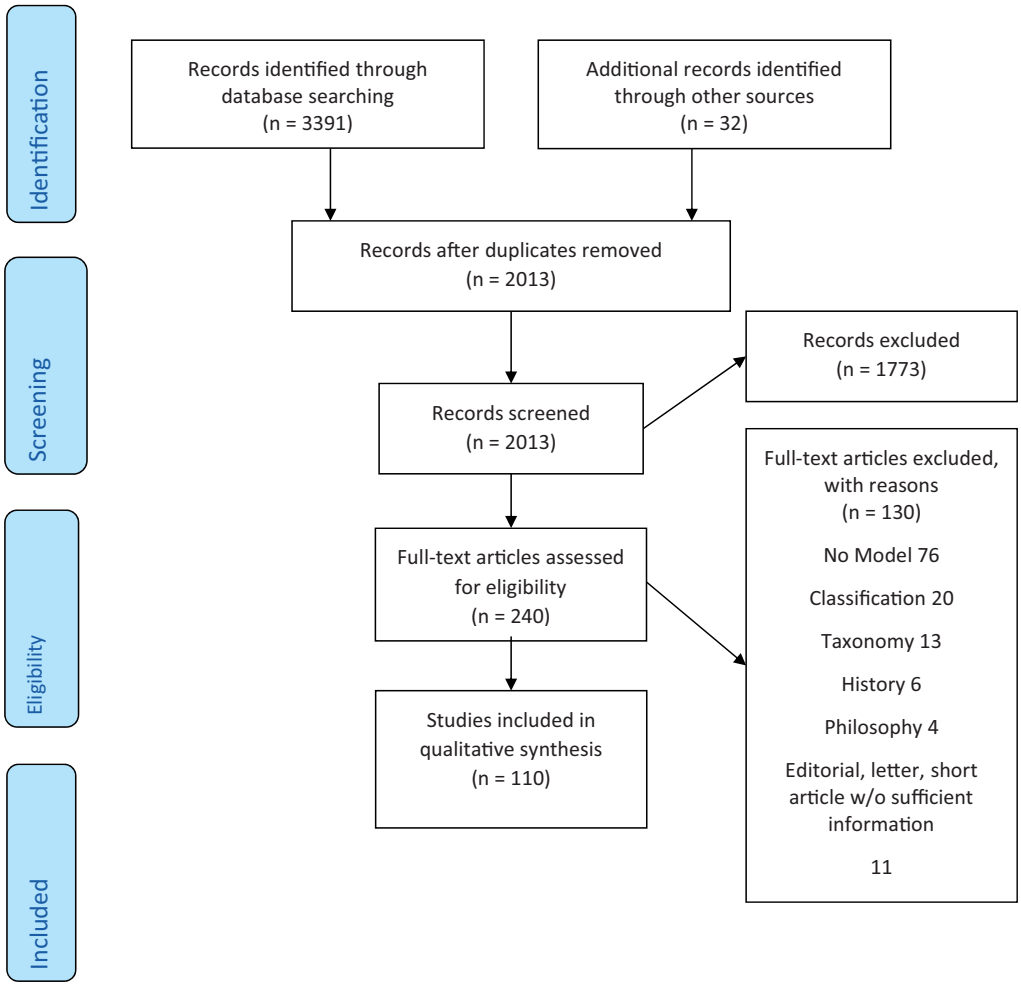


**Figure 1.** Flow-chart according to PRISMA.

Third, are models in the social category, consisting of social disability and critical realist models. Social disability models highlight the socially induced disabling constraints placed on people with mental health problems. Authors using this model have argued that mental distress is a socially situated response to social circumstances (Tew, 2015) and have also proposed that it should be used in conjunction with a capabilities approach (an approach to welfare that focusses on the capacity of individuals to achieve well-being) (Wallcraft & Hopper, 2015). Critical realist models propose the existence of a reality that is ontologically separated from experienced mental health problems. Authors drawing on this model propose that diagnostic models should be abandoned with new systems focusing on patient "complaints" in a manner that recognizes their psychological antecedents (Bentall, 2006).

Fourth, are models in the consumer category, which reflect the experiences of people who have been treated by mental health services. These consist of recovery models, mad studies/neuro-diversity models, and user/survivor studies. Recovery models aim to empower people with mental health problems to define what recovery means to them so that they can live meaningful lives. Authors writing about this model have proposed that it should be consumer-orientated (Andresen, 2011) or re-defined in relation to specific groups; such as young adults (McCauley et al., 2015). Mad studies/neurodiversity refer to approaches that propose normalising concepts of mental health and reject illness explanations. For example, those adopting a neuro-diversity approach argue that there is no single way to be normal and argues that biological variation is intrinsic to identity (Baron-Cohen, 2017). User/Survivor studies refer to models which stress the centrality of the experiences of people with mental health problems, normally in ways that are critical to psychiatry and sometimes psychology. Those adopting this approach have argued that psychiatry is a "modernist project" that aims to separate technological from conceptual understandings of mental health, wrongly privileging the "expert" doctor (Bracken & Thomas, 2013).

Fifth, are models in the cultural category, covering specific cultural, traditional, or spiritual understandings of what psychiatry refers to as illness. These consist of spiritual and traditional/spiritual and models. Those advocating a spiritual model do so through integrating psychoanalysis with spiritual principles (Bohmer, 2016). Those adopting a traditional/spiritual approach adopt both traditional as well as spiritual perspectives, for example, through arguing that Indian psychiatry should incorporate concepts of mind from Hinduism, Indian traditions, and Indian systems of medicine (Avasthi et al., 2013).

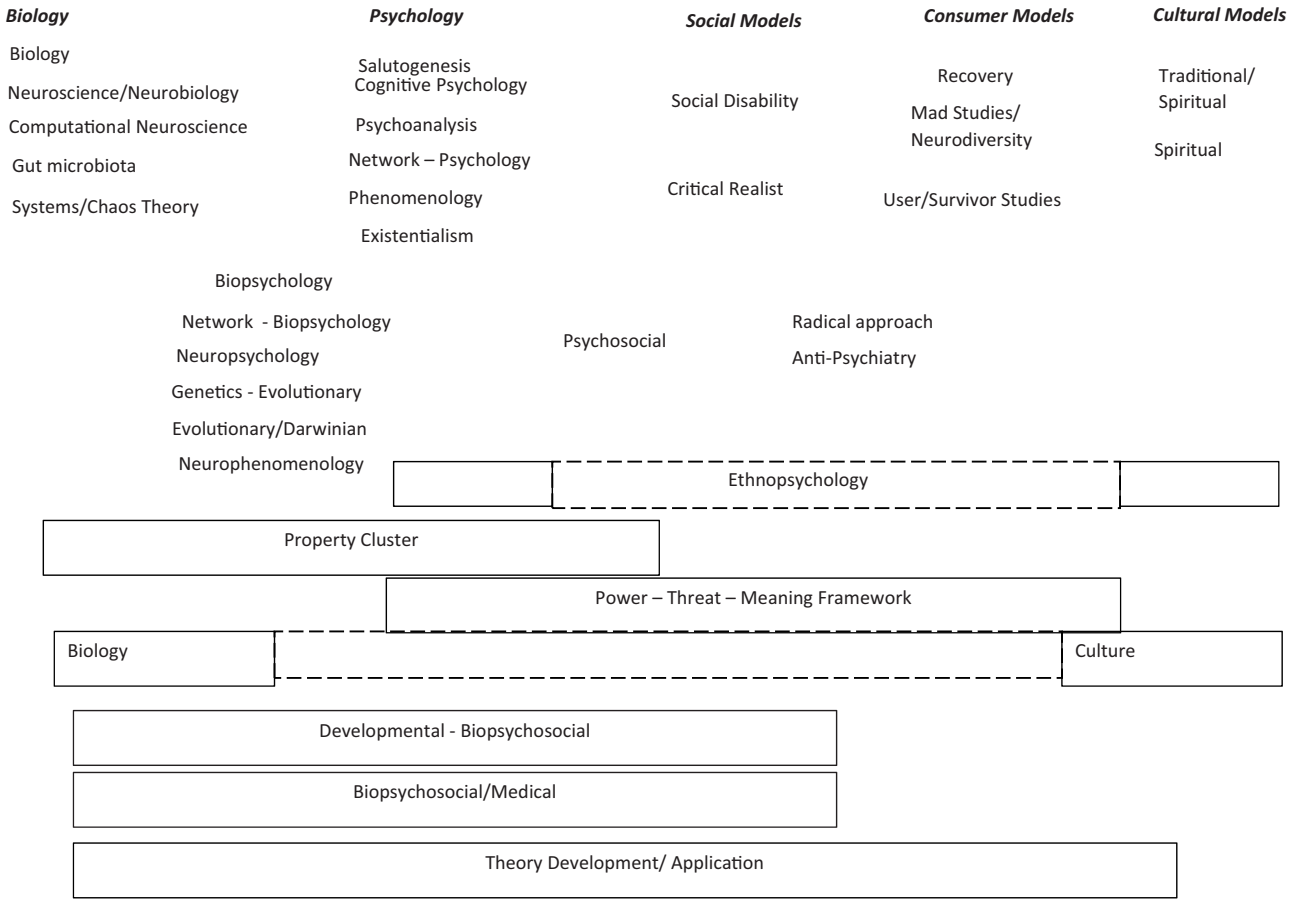


**Figure 2.** Overview of identified models.

Many of the models could be assigned directly to the broader categories. However, several models combined different categories or were judged to include joint models or a mixture of models. To provide a better understanding of the joint models we tried to "locate" them between the larger categories and/or as overarching models. Differences in labelling of joint or mixed models sometimes refer to nuances only (e.g. biopsychology *vs.* neuropsychology).

Three sets of models sit between the five categories described in the paragraph above. First, biopsychology, sits between the biology and psychology categories, drawing on elements from each. This consists of the network—biopsychology, neuropsychology, genetics—evolutionary, evolutionary/Darwinian, and neurophenomenology. Network—biopsychology refers to a joint network and biopsychological approach. Authors proposing such an approach have argued that the study of mental health problems can best be understood through a neurocognitive network perspective (focusing on the distribution and connections of neurons in the central nervous system) (Menon, 2011). Neuropsychology refers to a joint neurological and psychological approach for understanding mental health problems. For example, authors have proposed an amalgamation of neuroscience and psychotherapy (Freeman, 2003; Protopopescu & Gerber, 2013). Genetic—evolutionary models refer to a joint approach focusing on the interplay between the genetic and evolutionary mechanisms believed to lead to mental health problems. Authors adopting this model propose that gene-environment interactions and rare genetic variants constitute most of the genetic contribution to mental health problems (Uher, 2009). Evolutionary/Darwinian models also focus on mental health problems within the context of evolutionary theory but place less emphasis on genetics. For example, Brune (2002) endorses the use of evolutionary psychiatry as a meta-theory that integrates biological and interpersonal factors in the study of mental health problems. Neurophenomenology models are those which adopt a joint neurological and psychological approach to understanding mental health problems. For example, Kendler and Campbell (2014) propose that "explanation-aided understandings" (which draw on knowledge from neuroscience and neuropsychology) can be used to provide an empathic response to people experiencing mental health problems.

Second, psychosocial models sit between psychological and social categories, drawing on elements of each. Authors taking this approach have emphasized how mental health problems are influenced by a person's everyday life and social circumstances (rather than by disease) (Cromby et al., 2012; Cromby & Harper, 2013).

Third, radical approaches and anti-psychiatry fall between social and consumer categories. Authors adopting a radical approach argue for the need to liberate people with mental health problems from existing paradigms, with some authors identifying steps for the creation of "democratic psychiatry" (Lewis, 2008). Anti-psychiatry is a critical approach that questions the existence of mental illness. For example,

Burstow (2014) argues that psychiatry should be resisted, identifying ways that those from the anti-psychiatry movement and the user movement might join together in this task.

Whilst the models listed above sit between our broad categories—biology, psychology, social, consumer, and cultural models, some others draw from these categories in less linear ways. Ethnopsychology refers to an understanding of mental health problems that are informed by the culture of particular ethnic communities and draws from psychology and cultural models. Authors adopting this perspective provide a concept of mental health problems informed by intercultural and psychological factors (Balbo Ambrosolio & Pis-Diez Pretti, 2007). Property cluster models are an approach that proposes that networks of mechanistic clusters cause mental health problems. For example, Kendler et al. (2011) argue that this model is the best way of understanding mental health problems as it acknowledges that mental health problems are multi-factorial or "fuzzy". The power-threat-meaning framework is a model which views mental health problems as an understandable protective response to adverse environments. Whilst the authors acknowledge that biology plays some part within mental health problems, the model draws predominantly from psychology and social models (Johnstone et al., 2018). Biopsychosocial models/medical models and Developmental—biopsychosocial models both contain elements of biology, psychology, and sociology. Whilst grouping biopsychosocial and medical models in the same category seems counterintuitive, we do this because psychological and social factors have been viewed by some as necessary for a good "medical" understanding of mental health problems (Murphy, 2020). Developmental—biopsychosocial models also draw on biopsychosocial approaches but focus specifically on developmental issues. For example, Greenspan (2008) proposes a Developmental, Individual difference, Relationship-based model to address child mental health problems. Authors endorsing all models identify the need for theory development/application and so this category spans all models and categories in Figure 2.

## Discussion

To the best of our knowledge, this is the first review focusing on models of mental health problems utilizing systematic review methodology. We have identified accounts from the natural sciences, social sciences, from service users and activists as well as from those advocating a traditional or spiritual/cultural approach. All deliver different perspectives on the definition and/or the etiology of a mental health problem. Although we excluded publications before 2000, we found a huge variety of models that aimed to describe, understand or analyze mental health problems. We found a mixture of older models developed several decades ago, which continue to be discussed and endorsed (e.g. psychoanalysis, Anti-psychiatry) and newer models (e.g. network approaches, computational neuroscience). Seen from a historical perspective, it is clear that new models have not entirely replaced older models but rather are oftentimes additional to them.

Several limitations should be noted that suggest our findings should be labelled as quasi-systematic only. Several books and book chapters included were not listed on databases and were identified through a hand search. It is therefore likely that other publications that are not listed on the databases we searched or have been indexed by different keywords that we may have missed. This may be particularly true for publications indexed in social science databases. Additionally, we are aware that the entire field is constantly evolving and that very new approaches, such as "Enactive Psychiatry" (de Haan, 2020) will add to the discussion. Our review only included papers written in English, German, Dutch, or French and excluded material written in other languages. The grouping of models (into Biological, Psychological, Social, Consumer, and Cultural) relied on the subjective judgement of authors. However, we did experience something similar to a saturation effect in qualitative research, in that no new models emerged by the time we had categorized half of the papers subject for inclusion.

We note several significant findings from our review. There are a range of different goals related to the proposed, endorsed, or critiqued models. While models promoting a biological or psychological science approach have scientific and/or clinical aims, psychosocial models, often propose political and/or legal solutions. Notably, there are few approaches that encompass both realms; that is, clinical and social justice concerns. An exception to this is the "Power-Threat-Meaning Framework" developed by the British Psychological Society, which draws on sociological concepts of power and psychological concepts of trauma (Johnstone et al., 2018).

While discussions about the most appropriate way to define mental health problems are not new (Kendell, 1975), it seems that these understandings have diversified in recent decades. Definitions are becoming increasingly contested too, with many publications arguing for one perspective over another (e.g. psychosocial approaches *vs.* biomedical models or vice versa). In this regard, we could not identify criteria that could be used to prioritize approaches. As such, our review mirrors previous non-systematic reviews from both psychiatry and other fields (e.g. philosophy). For example, a previous overview of psychiatric approaches aimed at developing a conceptual taxonomy concluded that researchers should choose between approaches, drawing on "judgement" and empirical data (Zachar & Kendler, 2007). Adopting a broad philosophical perspective, a further review has asked whether science or society will win the "tug of war" as to how mental health problems are defined (Radden, 2019a).

We can only speculate on why models of mental health problems are increasing. One reason may be the science-inherent process of specialization, exemplified by the broad spectrum of biomedical approaches in our review. A second reason could be dissatisfaction with conventional clinical classification approaches, such as the DSM, which are increasingly being disputed by researchers, clinicians, and service users (Zachar & Kendler, 2017). We also observe

that perspectives from non-medical professions, such as people with mental health problems, nurses, social workers, and policy makers, are now receiving more attention, meaning that the domain of mental health problems is no longer viewed as exclusively psychiatric or psychological field.

We also note that contemporary arguments about the nature of mental health problems have tended to focus on the tension between polar positions, i.e. biomedicine or the critical perspectives proposed by the user/survivor/critical psychiatry camps. Whilst the use of the bio-psycho-social model has been used to hold divergent perspectives together, this consensus seems to be fracturing. The reasons for this appear to be three fold. First, increased confidence in biological approaches by their proponents (possibly focusing on support from policy-makers following "the decade of the brain"). Second, dissatisfaction with the model at a theoretical level, because it reflects eclecticism; understood as an unprincipled mix of different approaches (e.g. Ghaemi, 2010). Third, dissatisfaction from psychosocial representatives who have received support from different policymakers. The latter has observed that the bio-psycho-social approach has masked a "bio-bio-bio" approach to mental health problems within health care's daily practice (Read, 2005).

A comparison of the broader groups of models shows that whilst all publications address the issue of mental health problems, the proponents of each model disagree with one another on a wide range of issues. These disagreements are only made explicit where authors critique other models or approaches. More commonly, different basic assumptions are taken for granted by the authors of each model. Four key points should be noted. First, most biomedical approaches do not question the illness concept of psychiatry. By contrast, illness concepts are routinely questioned by authors of social approaches, with economic and power structures being seen to affect how mental health problems are framed (e.g. Roy, 2007). Additional articles from social sciences databases would have probably made this position stronger. There is also disagreement as to whether the characteristics of mental health conditions should be seen as symptoms of mental health problems or rather as (normal) mental phenomena. This difference is most notable in the Neurodiversity approach. While biomedical models of autism regard the obvious variation of mental characteristics as symptoms, activists and socially or politically oriented scholars refute the label of disorder and highlight the need to accommodate the social environment of the affected persons (e.g. Chapman, 2019). Second, disagreements remain as to how and where the boundaries between sanity and illness/disorder should be drawn. Approaches that rely on common DSM/International Classification of Diseases (ICD)-criteria refer to clinical symptoms while other approaches, such as the Power-Threat-Meaning Framework ask what meanings the phenomena have for the person who is experiencing mental health problems and whether these experiences are a response to their social circumstances (Johnstone et al., 2018). Recent philosophical analyses have highlighted the need for a rational approach and negotiations between stakeholders and between involved individuals (Aftab & Rashed, 2021). Third, the etiology of mental health problems continues to be disputed. Biomedically oriented researchers are normally in no doubt that mental health problems stem from the genetic or neurobiological makeup of an individual. Although they view social factors as relevant, they are viewed as one of many causes that may contribute to a mental health problem. By contrast, those advocating for social models either stress societal factors, such as power imbalances and injustice as the most important factors or argue that the social and environmental factors may hinder a person's enjoyment of their rights and capabilities. Fourth, the question of first- or third-person perspective is important. Biomedical or psychological approaches commonly use the third-person perspective of researchers to describe mental health problems. In contrast, more socially focused models stress the relevance of the first-person perspective (e.g. Deegan, 2001). This is the reason why we have included non-academic publications in our review as they more represent first-person accounts more often. User-led research is from our point of view of utmost importance in this research field. Despite the above disagreements, the range of models outlined in our graph is still best viewed as a continuum. Models attempting to bridge the divides have diversified and tend to draw together specific elements of models rather than attempting to bridge the whole range, i.e. new bio-psycho or psycho-social models are emerging, rather than new bio-psycho-social ones.

What is notable from our cluster model is the expansion of psychological approaches. Whilst older psychological models, such as psychoanalysis and phenomenology continue to be considered, there is a clear growth in the psychological and bio-psychological categories. In addition, those who use services are becoming more vocal. There is an increase in consumer models which prioritize the perspectives of service users over clinicians thereby widening debates, by allowing for the inclusion of more subjective concepts of well-being. Finally, concepts of mental health problems cannot be developed in medical or health care communities exclusively. What counts as a mental health problem is not a question of right or wrong but rather a question of gaining acceptance in communities that are affected by issues and decisions based on those concepts.

## Conclusion

We conclude that the uncertainties around what constitutes a mental health problem have become more pronounced in recent decades. We were unable to detect any approaches which might act as a basis for consensus within the academic field, amongst clinical professions, or between stakeholders. Key areas of contestation are: (1) the characterization of mental health phenomena as a disease (or not), (2) the etiology of such phenomena, (3) the boundary between mental phenomena and mental health problems, (4) whether to take a first or third-person perspective.

From a theoretical perspective, we see two options. The first option is to finally acknowledge that at least some models are incommensurable with others. Different theories address different issues and so often do not overlap. This is

not the first time in the history of psychiatry that the argument regarding the incommensurability of approaches has emerged. Drawing on Kuhn (1962), Kendler concluded that the notion of incommensurability between approaches, such as psychoanalysis, social psychiatry, and biological psychiatry "may be too pessimistic" (Kendler, 2005). Kendler, therefore, proposed a somewhat pluralistic approach. However, his conclusion only referred to the perspectives of different researchers and remains primarily within the biomedical realm. When the additional and more diverse approaches of non-medical professionals and service users are considered, the incommensurability argument becomes stronger and, in our view, must be accepted (Pilgrim, 2009). In mental health care and psychiatry, we have to acknowledge that mental health problems cannot be explained by one approach only; a position referred to as "Epistemic Pluralism" in the field of philosophy (Kusch, 2017).

The second option is to develop a meta-theory (a theory about theories). Rather than trying to integrate diverse approaches into a holistic one (such as with the biopsychosocial approach), such a theory should aim to trigger new theoretical and methodological research (Finkel, 2014). This could, for example, result in a future terminology for mental health problems that is more widely accepted than current ones. It may also result in a notion that practically leads to the acceptance of pluralism by all parties.

In clinical terms, this leads us to a service model that is based on endorsing perspective diversity. Following postmodern theories in the 1990s, Bracken and Thomas have called such a concept "Post-psychiatry" (Bracken & Thomas, 2005). A more recent approach from the sociology of health and illness refers to "polycontexturality" (Knudsen & Vogd, 2014) which means that a multitude of contexts and value systems need to be considered simultaneously, particularly in health care settings. Mental health care, according to such a model, should be guided by service user preferences rather than by evidence-based psychiatry (van Os et al., 2019). For clinicians, such an approach would require them to develop "Conceptual competence" (Aftab & Waterman, 2020), in which they become aware of fundamentally different assumptions and concepts so that these are not interpreted as illness symptoms or "lack of insight" in users of mental health services.

Wider implications of acknowledging polycontexturality in mental health care are related to legal and political issues. As mentioned in our introduction, legal scholars do not always adhere to the medical perspective in legal cases. This is reflected in ongoing debates around the United Nations Convention on the Rights of People with Disabilities (UN-CRPD) when applied to mental health care (see e.g. Gosney & Bartlett, 2020). The UN-CRPD aims to strengthen the rights of service users to lead a life that is more likely to be in accordance with their preferences rather than with conventional medical views. A diversity approach could serve to alleviate and defuse conflicts based on different perspectives.

Finally, we would like to stress that discussions about models of mental health problems need more input from non-medical professions and service users. Currently, the diversity of perspectives in and around clinical settings is not sufficiently reflected in the literature. This is unfortunate as academic discussion on these issues is growing and is being led by increasingly specialized scientific communities. Therefore, we propose that collaborative initiatives between non-medical stakeholders and academics working on scientific projects should be included within theoretical discussions about mental health problems.

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All data is included in the Supplementary Material.

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