

# What A.I. Will Do for Psychotherapy

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**A.I. is enabling us to find causes while we've only previously been able to catalog by symptoms.**

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“Mental stress assessment remains riddled with biases caused by subjective reports and individual differences across societal backgrounds. To objectively determine the presence or absence of mental stress, there is a need to move away from the traditional subjective methods of self-report questionnaires and interviews.”

— **Kit et al.** (2023), computer scientists and mechanical engineers

## Diagnoses Versus Definitions

Lacking an etiology, theory, or biological cause for aberrant mental behaviors, the Diagnostic and Statistical Manual of Mental Disorders provides common definitions, descriptions, and criteria. Its diagnoses are not medical, they're descriptive. They don't ascribe reasons, causes, or mechanisms; they classify.

The problem with this is that languages change, as do behaviors, expectations, and definitions. This subjectivity creates one set of problems, and our lack of control over these changes creates another.

This is not a problem in the case of unique, neurological dysfunctions. People who have lost basic abilities of speech, memory, movement, or recognition can be distinguished without prejudice or bias. But people whose behaviors inhabit the boundaries of what's culturally acceptable cannot be fairly or accurately identified.

This isn't just a problem for therapists, educators, and researchers, it's also a problem for those who experience these conditions. For example, chronic fatigue and fibromyalgia are two presumably biological conditions for which we cannot find biological causes. The medical establishment can no longer dismiss these as psychosomatic. Psychosomatic elements are involved, as they are in everything, but that is not sufficient.

All somatic conditions contain or involve psychological elements, but in cases such as these, we're unable to tell the extent of either, nor are we able to distinguish between them. We need to take classification to a higher level, the level of life histories, diets, attitudes, and actions.

There are various dramatic psychological dysfunctions we'd like to better understand. Some, like depression and anxiety, can be traced to trauma, environment, and individual differences. We can see addiction as self-medication that's gotten out of hand. Other conditions, like paranoia and anxiety, arise from mental dysregulation of too much fear, too little cognitive control, and a lack of resilience.

## **Personality Disorders**

Personality Disorders (PDs) have a strong emotional component. They're characterized by avoidant, dependent, obsessive-compulsive, paranoid, schizoid, oppositional, impulsive, histrionic, and antisocial behaviors. All human interactions have or should have emotional components. The emotions that correlate with PDs that are distinctive in their extremes.

These disorders come with odd intellectual attitudes, but it's their emotional impact that delivers a gut punch that is unintended, poorly justified, and unexpected. This behavior leads those who deliver it to be judged to be bad people by those who receive it. Therapists may have a hard time being more accepting.

Behavior is culturally relative. Deviance can be ascribed to unusual circumstances in cultural contexts. It takes an extensive history to determine whether it's a person's thinking or their circumstances that are causing their behavior. Besides wide ranging cultural norms, various groups support a wide range of acceptable behaviors.

Intolerance, exploitation, sexual license, high risk, and aggressive behaviors are encouraged within some groups. It's tempting to consider all members of these groups as having disordered personalities. To some extent we do; we say, "boys will be boys," but there is a difference between those people who cannot see what's wrong versus those who support what's right within their circles. Think of predatory Catholic priests.

## Borderline

Borderline Personality Disorder (BPD) is seriously harmful, variously presented (Biskin 2015). BPD is “strongly connected to self-narratives, which manifest excessive incoherence, causal gaps, dysfunctional beliefs, and diminished self-attributions of agency” (Szalai 2020). It can be disguised and may be difficult to recognize.

The term “borderline” reflects this difficulty in its reference to behaviors that share elements of both neurosis and psychosis. People with BPD comprise 2% of the general population, 10% of the outpatient population seeking psychotherapy, and 20% of inpatients. Previously considered irremediable, more positive, nuanced prognoses have since been recognized (Cristea et al. 2017).

The implication of cultural attitudes in BPD behavior is reflected by a three times higher diagnosis in women (Qian et al. 2022), even though just as many men exhibit BPD behavior. The different aberrant behaviors of men (Sansone and Sansone 2011) are either tolerated or prosecuted as criminal.

The short-form definition of neurosis is, in my mind, a feeling of being flawed in oneself, leading to camouflage, evasion, depression, self-sabotage, and self-harm. In contrast, I think of psychosis as seeing oneself assailed by outside threats, leading to intolerance, exclusion, resentment, paranoia, and aggression. Many of these are attributes that can be rationally justified. There is evidence that greater verbal ability correlates with a person with BPD’s greater ability to “fit in” (Galletta et al. 2020).

## Identifying Causes

BPD is such a wide-spectrum disorder that it appears to develop without obvious cause. There are various biological markers that correlate with it, but these are not so unusual as to be causative.

“Research clearly demonstrates that BPD evolves from a complex interaction between environmental, anatomical, functional, genetic, and epigenetic factors. There are many risk factors, and each one serves to strengthen the others.”

— **Pier & Marin** (2016)

A large amount of detailed personal data has been collected on people diagnosed with BPD. In 2004 and 2005, personal interviews were conducted with over 2,000 people who met the criteria of BPD. These interviews were part of the over 34,000 interviews conducted as part of the National Epidemiologic Survey on Alcohol and Related Conditions (Grant 2008).

Psychological data is analyzed statistically. That means that various criteria are picked out of the data and plotted against each other. If 30 different parameters are measured, then 435 different pairs can be compared. Some of these will show a clear relationship, others will show no relationship, but the relationships of most will be uncertain. Statistical tools are employed to resolve these “uncertainties,” which are a combination of meaningful relationships, errors, vagaries, and randomness.

If we’re lucky, statistics will reveal the relationship between interdependent properties, but it says nothing about causes (Grecucci 2022). Both alcohol abuse and wrecked cars correlate with automobile

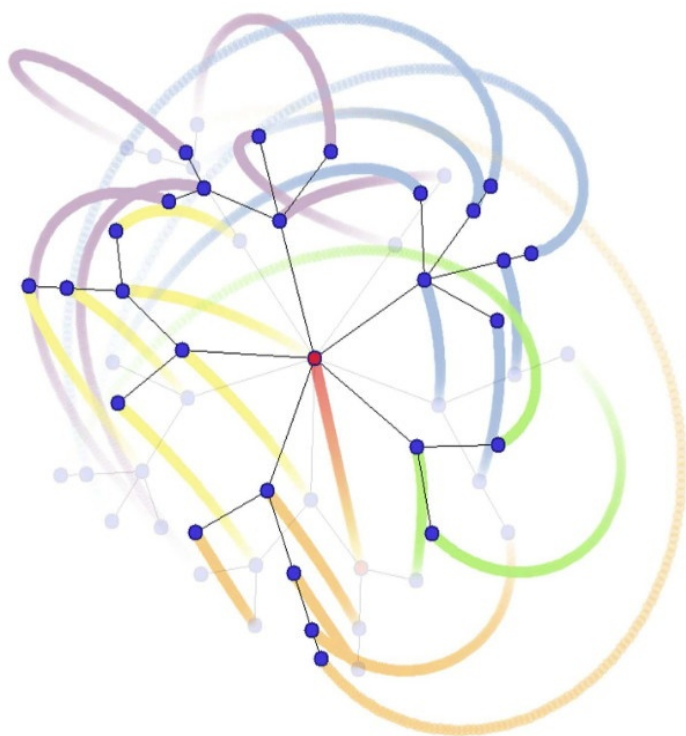
injuries, but inebriation is a cause, while car crashes are a correlation. Is antisocial behavior a cause or a correlation in those with BPD?

Many things that could be the cause of things are hard to quantify, such as parenting styles, childhood experiences, and social behaviors. If you can't assign a number, then you can't perform statistical analysis. As a result, much of what may actually cause a chronic condition simply cannot be analyzed.

BPD presents an unusual difficulty. Those who have this behavior are either unaware of it, or see their condition as a personal failure. In neither case will they admit dysfunction, and they cannot say why they're in this situation.

They cannot see their role because their judgment has been distorted. They cannot identify its origin because they actively repress traumatic memories and inflate external causes. They are abused people who cannot remember their abuse, and do not want to.

## Artificial Intelligence



Artificial intelligence, as it's now employed, is pattern matching. This differs from statistics, which is trend spotting. You do not make a smart machine by following trends. A smart machine is something that recognizes opportunities and explores exceptions. A.I. is good at identifying and extracting meaningful data.

We think intelligence is gaining knowledge. We don't think of data collection as an intelligent activity. But what is knowledge except relevant data? What A.I. does is neither artificial nor intelligent. It finds patterns. It takes human intelligence, or some other means, to identify what's profitable. It's that combination of finding and judging patterns that makes a machine "intelligent."

A machine can find patterns in life histories much faster and more accurately than humans, and with less bias and error. A machine is impersonal. It will not not reveal or remember personal information. Most importantly, pattern matching systems do not need quantified data. They can take verbal, visual, relational, network, or geometric information and extract patterns from them.

Pattern matching is not automatic because certain patterns must be selected from an infinity of possibilities. There is a role for human discernment in the patterns we look for, but machines can optimize and identify rough structures.

“There are various ways and symptoms of personality disorders, causing traditional methods to predict personality disorders to be inaccurate and take a long time. The continuous development of clinical examination technology and artificial intelligence technology can not only greatly reduce costs, but also obtain assistant diagnosis results in real time.”

— **Sulistiani et al.** (2021)

We can already extract common events from the verbal histories. While we know what causes physical trauma because we can see it, we don’t know what causes emotional trauma because we cannot see it. Artificial intelligence pattern matching algorithms can change that.

“Relatively recent advances in machine learning, including regularized regression, provide tools for determining the most important predictors among a large number of correlated factors... we found the best-fitting model for BPD symptoms used only 19 predictors of a possible 128 entered into the model. Mood and anxiety symptoms, poor self-control, harsh punishment, poor functioning, and problems with anger, attention, and self- control were among the most important predictors.”

— **Beeney et al.** (2020)

This approach resembles how we currently describe these disorders, but it is different. The traditional approach is based on a client's current behavior, while this approach relies on history and inference.

“The diagnosis of personality disorders based only on observable signs and symptoms is highly problematic considering the difficulties in distinguishing trait-dependent manifestations from active symptoms common to other mental disorders.”

— **Grecucci et al.** (2022)

A.I.-based depth analysis will revolutionize observational psychology. It could make current diagnostic methods and criteria obsolete. Future diagnoses will likely be based more on extracted information, and less on behavior.

This will change what we now see as embedded in a person to a developmental context of a person. By moving away from presentations to causes, we can better understand how behaviors change. Such a change will allow us to integrate static biological and behavioral models with dynamic psychodynamic and neurological models. This will be a significant improvement.

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