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Mental Disorders, the Positivity Effect, and Questions of Identity and Responsibility

A Thesis Presented

By

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To the Keck Science Department

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And Philosophy Department

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Contents

Abstract

In order to judge how behavior caused by the positivity effect should be considered, comparisons were made between the positivity effect and two mental disorders. These disorders, Tourette's syndrome and psychopathy, were selected due to their extreme differences in what Strawsonian attitudes they inspire and how they are perceived relative to disordered patients' will. Disorder-affected behavior of Tourette's patients inspires the objective attitude and is seen as a condition affecting an individual's will, while disorder-affected behavior of psychopaths inspires the interpersonal attitude and is seen as a character trait. Relevant distinctions between psychopathy and Tourette's syndrome were found to include their neurological causes, the obviousness of the suffering they caused, and how easily their disorder-affected behavior could be mapped onto goal-seeking behavior. These considerations suggest the positivity effect should be viewed similarly to psychopathy in terms of responsibility, although this is complicated by its time of development and other factors.

Introduction

Even before the point of senility, the effects of aging on our minds is profound. A sterling example of this is the positivity effect: a trend in older adults harming their memory of negative stimuli, and a greater attentional focus on positive stimuli, compared to younger adults. This has been observed in autobiographical memory (Kennedy et al., 2004), image recall (Barber et al., 2016; Sakaki et al. 2019), descriptions of ambiguous facial expressions (Kellough & Knight, 2012), and emotional arousal to images (Mather et al., 2004).

The positivity effect may explain known problems in older adults' decision-making capabilities. Older adults have worse stimulus-association learning capabilities than their younger counterparts (Mell et al., 2005), and a pilot study has suggested that they're specifically affected in their ability to associate stimuli with punishments—their ability to associate stimuli with rewards matches that of younger adults on average (Bault et al., 2021). A decreased ability to pay attention to or remember negative stimuli may be behind this failure of association. This in turn may explain older adults' greater proclivity towards economically irrational choices (Tymula et al., 2015).

We normally hold agents responsible for their poor decision making. Is it fair to do this to older adults when their decision-making capabilities are weakened? Our first response may be to claim that, since they can't help making such irresponsible choices as their decision-making ability is the product of an altered psychology, it wouldn't do to hold them responsible. Yet we commonly hold foolish people responsible for their actions, *despite* our recognition of them as foolish. This wouldn't make sense if we thought people couldn't be held responsible for aspects of themselves they couldn't help. After all, "foolishness" as a basic trait negatively

affects decision making and is something people often can't help—we may even think they were born foolish! However, we may not hold people responsible for "foolish" behavior if we know they are the victim of a stroke or some other malady affecting their thinking. Why is this? In both cases, the agents' decision-making is being negatively affected by something they have no say in, so why do we hold them responsible in one case but not the other?

The question of how to view the positivity effect can be explored by how we view mental disorders, which pose interesting questions for standard concepts of identity and responsibility. Most interesting is how we have seemingly contradictory intuitions about how to answer these questions for certain mental disorders. Examining two paradigmatic mental disorders, the intuitions surrounding them, and the qualities grounding those intuitions will thus be helpful in constructing a useful means of judging the responsibility of older adults for actions affected by the positivity effect.

Mental disorders often seem to have a special relationship with identity, as is evidenced by the two different ways we commonly view them. In many cases they are seen as modular—we can imagine these disorders being "removed" from someone without that person fundamentally changing. Indeed, many disorders can be framed as inherently separate from a person, to the point that a person's actions can be blamed not on them, but on the disorder. Consider a Tourette's patient whose tics include shouting obscenities; an attempt to hold them responsible for such rude exclamations feels misplaced. It almost makes more sense to hold the disorder itself responsible, rather than the affected agent. This is also seen to lesser degrees in conditions such as bipolar disorder or schizophrenia—a patient's disorderly conduct is in many

cases not judged as harshly as it would be had a person not suffering such disorders committed similar acts.

Yet other disorders are seen as being fundamental aspects of a person. They could not be removed without us considering the patient fundamentally altered, and their effects on behavior are not widely viewed as taking away moral responsibility from the patient. One such disorder is antisocial personality disorder —or psychopathy, as it is more popularly known[1]. In addition to the disorder not being seen as "modular" like Tourette's syndrome, the harmful actions undertaken by a psychopathic person due to their lack of empathy for others are blamed on the person themselves, rather than their disorder. In general, psychopathic patients are judged no less harshly than neurotypical agents for acting disruptively. This has been found in areas where the consequences of judgment are most severe: a survey of over four hundred jurors found that they strongly felt psychopaths were responsible for their own actions (Smith et al., 2014). Their lack of empathy is judged as a character flaw, rather than the symptom of a malady, to the point that the word "psychopath" has become an insult. Once again, this is not the only disorder that brings such characterizations; personality disorders in general often seem to be viewed in this way.

Identity Question

Between these examples, we can see two ways in which the relationship between neurodivergent agents and their disorders can differ based on what disorder is being examined.

[1] While many psychologists have argued that antisocial personality disorder (ASPD) and psychopathy are separate disorders, there is a great deal of overlap between the literature of the two terms. See Everett (2006) for a deeper discussion. For the purposes of this paper, psychopathy and ASPD will be considered synonymous. To avoid confusion, when citing others' work I will use whichever term they use.

The first is the identity question: Are the disorder's effects seen as behavior-affecting maladies, suggesting the disorder is affecting an agent who could be considered separately from it, or are the effects seen as character traits, suggesting the disorder is an intrinsic aspect of the agent? We'll call the two extreme answers to this question "modular" and "intrinsic," respectively. To go outside the bounds of mental disorders, we could similarly classify the divide of foolish agents spoken of previously. We would normally say a person *born* foolish is having their decision making affected by an intrinsic condition, while we'd label a person affected by a stroke as having their behavior altered by a modular condition.

I should mention that this question uses "identity" in a narrow sense: What is specifically being discussed are the aspects of identity that affect a person's values, desires, and moral behavior. This admittedly vague notion will be referred to broadly as "moral personality." To help distinguish this from other concepts of identity, we'll take the case of a blind man. The man may say that his blindness is a part of his identity, that he wouldn't be who he is without his blindness. In a broad sense of the word "identity," he would be correct. His blindness greatly impacts the way he views himself and interacts with the world, and seems as important an aspect of his identity as any. However, if his sight was one day corrected, while a large piece of his identity would have changed, it would not relate to his moral personality. His newfound sightedness would affect his behavior by giving him new types of information from which to make decisions, but it would not change the nature of how that information is processed and evaluative judgements are reached. He would not become a different type of moral agent, and because of this his blindness or sightedness are modular conditions, though in other aspects of identity not covered by this paper they are intrinsic.

Responsibility Question

The second consideration is the responsibility question: Do we consider the disease as constituting an *excuse* for disorderly disease-affected behavior, or merely an *explanation*? This question asks whether it is appropriate to hold an agent responsible for behavior caused by a disorder. The responsibility question is much less bimodal than the modular question (though neither have firm boundaries), as many disorders' relationship to responsibility is ambiguous or controversial, such as addiction (Radden, 2019, section 9.2). But we can look at the extremes: If the disorder's presence dissuades people from holding the agent responsible for behavior caused by the disorder, we can label it "resentment-inhibiting," and when an agent's disorder causes offending behavior that is *not* excused by the disorder's presence, we can label it "resentment-provoking."

This labelling can be explained through a look at Strawsonian attitudes. Peter Strawson (1974) claims we view most people we meet in our day-to-day lives with what he calls interchangeably the "participant attitude" or "interpersonal attitude" (p. 11). This attitude is taken up naturally whenever we view behavior as the result of an agent's free will, and therefore rightfully subject to reactive attitudes and moral condemnation (p. 9, 21). He contrasts this with an "objective attitude" (p. 9), that views others' behavior as if it simply requires "management, treatment, and control" (p. 17) without assigning any moral obligation or responsibility. Such an attitude suspends the normal reactive attitudes one would hold upon being harmed by a moral agent's behavior—through the objective attitude, one would not feel

resentment at a slight, or gratitude for a boon[2] (p. 9)—hence, disorders that cause offending actions to be viewed in the objective attitude are "resentment-inhibiting." In effect, when viewing someone's actions through an objective attitude, you are considering them not as a person, but as a complicated object.

When viewing offending behavior through the interpersonal attitude, you are viewing them as a normal moral agent. As moral agents are considered responsible for their own behavior while acting under their own free will, any disorder or condition that affected someone's actions while they were acting as a free moral agent can only be an explanation for their behavior, not an excuse. Conversely, behavior viewed through the objective attitude is in some way *exempted* from the normal reactive attitudes a moral agent would warrant. Its underlying causes are excusatory, rather than merely explanatory.

Reactive attitudes are characterized inconsistently throughout Strawson's work, and this has led to different interpretations from writers responding to him. Watson (1988) focuses on Strawson's characterization of reactive attitudes as demands for goodwill, but whether this demand is meant to be respected on a behavior level, or is simply a declaration without expected behavioral results, is unclear. Greenspan (2003) characterizes reactive attitudes more neutrally as reactions towards good or bad characteristics of others' will/moral personality (p. 421). This purposefully leaves out any indication that reactive attitudes are meant to influence others' behavior.

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[2] The objective attitude is taken up in what Strawson (1974) calls "type 2" cases of suspending reactive attitudes. Type 1 cases are those where the offending action should not be seen as blame-worthy for external reasons. A man who shoves you because he tripped would not inspire resentment for type 1-related reasons, while a man who shoves you due to a hypnotic suggestion telling him to would not inspire resentment for type 2-related reasons. The boundaries between type 1 and type 2 cases, and whether any mental conditions might better be categorized as type 1, are beyond the scope of this paper.

But fundamental to each account is that the interpersonal attitude is a necessary component of our ability to see other people *as* people, or specifically as free moral agents. This can be put in Kantian terms (Greenspan, 2003, p. 421); just as constant conjunction will automatically be perceived as causation unless effort is put into viewing it otherwise, and the perception of causation *depends* on the presence of constant conjunction, so too is the interpersonal attitude automatically taken up when seeing others as people, and our ability to do so depends on using the interpersonal attitude. The application of reactive attitudes towards an action is an indication that we see the action's performer as a moral agent, and a lack of reactive attitudes is at least a partial indication that we *don't* see them as a moral agent[3].

The objective attitude is first introduced in reference to disordered behavior (p. 8), specifically the actions of schizophrenics and those with compulsions (we can group Tourette's patients in with the latter). Importantly, in the same breath Strawson also claims the attitude can be applied to other cases, such as the behavior of children or the extraordinarily stressed, giving us further insight as to how it can be applied to our purposes regarding the identity question. Those under a lot of stress will often behave with less care and more venom, which both Strawson and Watson (1988) take not to mean that strain reveals what a person's true moral personality is, but instead that strain inhibits a person's typical moral personality. Watson uses the example of someone who treated you rudely, but you later learned was going

[3] Strawson (1974) does claim that the objective attitude can be purposefully taken up when viewing behavior that would normally trigger the interpersonal attitude. As such, the mere fact that a behavior is being viewed through the objective attitude does not on its own suggest that it is exempt from reactive attitudes naturally. For instance, I think the objective attitude *should* be taken up in the judicial system whenever possible, regardless of whether defendants bear responsibility for a crime and naturally inspire reactive attitudes.

through a divorce (pp. 265-267). The exceptional circumstances the offending agent is going through prompt the thought that they were not themselves in the moment of lashing out. For this thought to be a factor that inhibits resentment, reactive attitudes must be responses to an agent's moral personality, which is not reflected in their behavior while under stress.

Contrast this with another example Strawson uses that is expanded upon by Watson: the behavior of a young child. Feelings of resentment toward children generally feel misplaced, largely because we know they don't have full moral understanding of their actions. They "lack an understanding of the effects of their behavior on others" and "a sense of what it is to hurt another's feelings." (Watson, 1988, p. 264). As characterized by Watson, resentment is a reaction to having my demand for goodwill flouted. Because young children lack the ability to understand such a demand, and as such don't have the capacity to meaningfully disobey it, resentment is not rightfully applicable towards the behavior of such underdeveloped moral agents.

These two cases are examples of modular and intrinsic conditions respectively. By temporarily affecting the behavior of an agent in ways that do not reflect their moral personality, stress is acting as a modular condition. While the agent's behavior would be different without such stress, their moral personality would not be. The lack of moral understanding that comes with childhood, however, is an intrinsic condition. It fundamentally affects a child's moral personality (or alternatively is responsible for their lack of a developed moral personality). To consider them without this condition is to imagine their moral personality becoming fundamentally different.

Importantly, Strawson does not bring up the interpersonal attitude in relation to any type of neurodivergent person himself; he only uses it to describe the attitude usually adopted when interacting with a "normal" adult neurotypical person, one whose behavior we can treat as that of a true moral agent. However, I feel that this attitude applies to psychopathic patients' disordered behavior. While Strawson specifically lists psychopaths as examples of those with resentment-inhibiting conditions, their offending behaviors typically inspires resentment just as much as a those of a neurotypical, interpersonally-viewed agent. As such, despite Strawson's labelling, this paper will consider psychopathy as a resentment-provoking condition. It is also worth noting that psychopathy, like childhood and unlike Tourette's, affects all behavioral cognition in a way that marks it as an intrinsic, rather than modular, disorder.

These two axes of how we consider mental disorders are correlated. A disease is often seen as modular *and* resentment-inhibiting because behavior is less likely to inspire interpersonal reactions when it is not the result of your own will, and you *have* a will of your own to contrast it with. The unnamed narrator in Miranda July's "The Shared Patio" uses such reasoning to explain her choice to nap through her neighbor's medical emergency: "Why did I do this dangerous and inappropriate thing? I'd like to think I didn't do it, that it was in fact done to me." (2007, p. 7) The narrator here is claiming her behavior was caused by something modular and objective-attitude provoking, much like the tics of a Tourette's patient. Likewise, causes of behavior that are intrinsic, such as character traits, are typically *not* seen as resentment-inhibiting. Just as the scorpion is hated for stinging the turtle despite such actions being in his nature, the psychopathic person is hated for their harmful behavior despite it being largely in theirs. There are cases where this matching fails, as we will discuss. Still, from a

dichotomy of modular-excusatory and intrinsic-explanatory, we can set a useful taxonomy of mental disorders' relationship to responsibility.

Definition of Disorder-Affected Behavior

As this paper will be commonly dealing with attitudes towards disorder-affected behavior in neurodivergent groups, it would help to provide a clear definition of such behavior. Loosely, we are looking at behavior that is caused by an agent's mental disorder, such as the motor tics of a Tourette's patient. This could lead us to label any action undertaken by a neurodivergent agent that is noticeably different than what would be expected of a neurotypical person as disorder-affected behavior. But this quickly can be shown to be too broad. For example, if a Tourette's patient began avoiding the public due to fears of bullying and social stigma, we would not say his isolation was an example of disorder-affected behavior. While his self-isolation is a result of his disorder (as he would not fear bullying if he didn't have Tourette's syndrome), it isn't *directly* caused by his disorder.

What would it require for behavior to be directly caused by a disorder? The behavior would need to be not just the result of the disorder, but the result of the disorder affecting how an agent acts in a specific *external* context. This is not the case for the Tourette's patient's self-isolation. They are in the external context of expecting ridicule and social stigma, which a neurotypical person might also respond to by isolating themselves. Although their disease is responsible for their external context, their response to their external context is not in this instance a result of their disorder. We can contrast this with a Tourette's patient exhibiting involuntary motor tics, which a neurotypical person wouldn't exhibit in any external contexts

short of being asked to imitate a Tourette's patient. From this, we can develop a more complete version of our earlier proposed definition:

> ***Disorder-Affected Behavior****: An action or pattern of behavior undertaken by a neurodivergent agent that is noticeably different than what would be expected of a neurotypical person placed in a similar external context.*

To further illustrate this concept and how it will be used in this paper, let's apply it to our second archetypal disorder. A psychopathic person has a decreased amount of empathy for other people. They are unresponsive to the distress their actions can cause others (Cleckley, 1950), which can cause them to be more willing than neurotypical agents to harm or manipulate others . We can call this behavioral pattern a disorder-affected behavior. However, we run into some problems applying such a label to individual harmful acts. Firstly, the normalcy of harming others depends on a large variety of cultural, interpersonal, and emotional factors. The complexities of these factors and the highly specific nature of the harm's context can make it difficult to judge whether a neurotypical agent would take the same action in the same external context. For this reason, we will often consider behavioral *patterns* as opposed to individual acts when discussing disorder-affected behavior.

Of note is that while the majority of disorder-affected behaviors discussed here will have a negative moral quality, such as being harm-inducing, not all disorder-affected behaviors will have a moral component. An inability to comprehend a written message due to an aphasia, for instance, does not have a moral component in the way the insults of a Tourette's patient displaying verbal tics would. Also worth mentioning is the fact that not all behaviors with a negative moral quality discussed here will be disorder-affected (such as harmful behaviors of a

neurotypical agent). Harmful behaviors from any source will be referred to as "offending behaviors."

Case Studies of Archetypal Disorders

Tourette's Syndrome

As discussed, Tourette's syndrome is a tic disorder and is characterized by patterns of non-rhythmic behavior. These behaviors can range from the simple, such as blinking, throat-clearing, or grunting, to more complex tics, such as imitating the movements of others or abruptly using obscene language (American Psychiatric Association, 2013a, p. 82). Such tics usually start to occur in early childhood, and begin to weaken in adolescence and early adulthood (p. 83, Felling & Singer, 2011, p. 12388), though they typically do not disappear entirely. It is largely believed to be an inherited disorder (Pauls et al., 1991), though various prenatal conditions such as maternal smoking have been shown to be risk factors.

Tourette's syndrome is nearly universally considered a neurological rather than psychiatric condition, a conception held from the first writings on it in the 1880s (Felling & Singer, 2011, p. 12387). While the exact neurological basis of Tourette's syndrome is disputed, it is commonly believed that anatomical irregularities of the basal ganglia are involved in the tic production of Tourette's patients[4]. According to a study by Peterson and colleagues (2003), these irregularities involve asymmetrical regions and reduced volume of the caudate nucleus,

[4] The idea of Tourette's syndrome affecting the basal ganglia has been challenged by studies on child Tourette's patients (Forde et al., 2017, p. 603). One might be drawn to the conclusion that basal ganglia abnormalities develop and worsen with age in Tourette's patients. This could explain why the feeling of tics being premeditated by urges comes as patients develop (American Psychiatric Association, 2013, p. 83). Such an explanation is weakened, however, by the clear reduced volume effect noted in children in the most extensive study to have found basal ganglia abnormalities in Tourette's patients (Peterson et al., 2003). Further research needs to be done on the relationship between age and basal ganglia abnormalities in Tourette's patients.

along with reduced volume of other regions in adults (pp. 415, 421). Supporting this is the observation that neuroleptic medications used to diminish tic severity are associated with the development of larger basal ganglia volumes, with patients treated this way not showcasing the same severity of basal ganglia volume reduction seen in untreated cases (p. 423).

Functioning basal ganglia constantly inhibit the motor cortex from enacting possible actions sent by the cerebral cortex, selectively dropping its signal to allow certain actions to be realized. The basal ganglia of a Tourette's patient are affected such that this inhibiting signal is much weaker. As such, while these possible actions aren't immediately put into practice, they can be experienced as urges (Schroeder, 2005, p. 119).

Tics being premeditated by urges are commonly reported by older Tourette's patients. These urges cause a large amount of tension, which expressing the tic can relieve (American Psychiatric Association, 2013a, p. 83). This can lead to Tourette's patients describing their tics as being semi-voluntary, or even as an unfortunate aspect of the self. This latter point especially would frame the tics as more intrinsic than commonly thought. Such an idea—of Tourette's patients simply acting on their desires by "giving in" to their tics—is challenged by Schroeder (2005), who argues that tics have more in common with habitual behaviors than intention-driven actions. If the urges behind tics are the result not of conscious desire but of a failure to inhibit the myriad possible action plans produced by the cerebral cortex at any time, we can classify tics as a "non-psychological neural structure" (p. 119) instead.

To further illustrate the concept of an urge with no desire behind it, Schroeder gives us the example of a rogue neurosurgeon's hapless victim, rewired to reflexively kick people unless they exert conscious effort. Just as it would be odd to claim the victim "desired" to kick others if

their efforts flagged, it would similarly make little sense to say a Tourette's patient "desired" to act out the planned actions sent by the cerebral cortex. At most, one could make a claim that in both cases, the agent "desired" to not spend effort in preventing something. Even then, it would be more accurate to say they both *lacked* a sufficient desire to resist their urges.

Schroeder does not believe that Tourette's patients' inability to act against their tics excuses them from moral responsibility (after all, Tourette's patients can choose to repress their tics in certain situations). Rather, he believes that an agent should not be held responsible for acting on an urge that *isn't* a desire or anything identifiably psychological. While I agree with him, I am left wondering whether *any* urge could be recognized as a desire after being reduced to its neurological components.

As mentioned, irregularity of the basal ganglia is not the only proposed explanation for the neurological symptoms of Tourette's syndrome. An in-depth summary of the various theories proposed regarding the neurobiology of the disorder has been created by Felling and Singer (2011). Schroeder's assessment of tics as the result of non-psychological neural structures interfering with the ability to properly inhibit planned actions is consistent with some of these models, notably those implicating the cortico-striatal-thalamic-cortical (CSTC) pathway. These models typically point to the likely dysfunction of several different neurotransmitter systems in the pathway as affecting cortical inhibition (Felling & Singer, 2011, p. 12392). Indeed, such models are consistent with and have been involved in theories that implicate the basal ganglia (Peterson et al., 2003, p. 422). It is less clear if Schroeder's assessment works with other explanations, such as those which implicate the prefrontal region and other cortical areas.

Psychopathy

As characterized by the DSM-V, patients with antisocial personality disorder (ASPD) are characterized primarily by their lack of regard for social norms or for the rights of others (2013b, p. 659-661). This is expressed through their pursuit of self-interested goals, via means typically considered immoral or Machiavellian. Deception, manipulation, and criminal behavior are all common enough to be diagnostic criteria for ASPD in and of themselves. These behaviors often begin during childhood (although an ASPD diagnosis is not given until patients reach an adult age) and can lessen in severity beginning around age 40. The DSM-V also characterizes the actions of a psychopathic person as impulsive, aggressive, irresponsible, showcasing a lack of remorse for harmful behavior, and indicating a recklessness for the lives of themselves and others.

The revised Psychopathy Checklist (PCL-R) further groups these symptoms into four dimensions: affective, interpersonal, lifestyle, and antisocial (Hare & Neumann, 2008, p. 219; Seara-Cardoso & Viding, 2015, p. 723). The affective facet concerns the psychopathic patient's lack of empathy or remorse, shallow affect, and failure to take responsibility for their own actions. These are grouped together as "factor-1" traits. The interpersonal facet describes their superficial charm, high self-worth, manipulative tendencies, and pathological use of deception. Symptoms along the lifestyle facet include impulsivity, irresponsibility, a need for stimulation, a lack of realistic long-term goals, and a parasitic lifestyle, while the antisocial facet depicts psychopathic patients' poor behavioral controls, criminal versatility, juvenile delinquency and early behavioral problems, and a propensity to break terms of conditional release. These are grouped together as "factor-1" traits.

However, categorization of psychopathy along these broad characteristics has been criticized. Adshead (2013) notes that psychopathy as a topic of study seems to be split between two different sets of symptoms. One set is made up of cases of 'criminal' psychopathy, characterized by violent actions and a pleasure taken in harming or manipulating others, first studied by Hare. The second set is nonviolent psychopathy, characterized by an indifferent attitude towards the harm of their actions and more closely aligning with descriptions in Cleckley's *The Mask of Sanity* (1950), the foundational text in the study of psychopathy. Adshead criticizes the conflation of these two sets of patients in studies, including the use of patients identified as psychopaths solely on the basis of factor-1 traits such as attitude (2013, p. 342). A related distinction exists between cases of "primary psychopathy" versus "secondary psychopathy," the former being associated with a lack of anxiety and the latter with high anxiety. These two varieties show differing behavioral profiles and neurological activation patterns, and have been speculated to have different causes (Sethi et al., 2018).

Of note is that psychopathy is seen as the tail-end of normally distributed psychopathic traits. Standard diagnosis of psychopathy consists of surpassing a certain score in a diagnostic checklist such as the PCL-R, with scores beyond this threshold indicating a large similarity between the patient and the "prototypical psychopath" (Hare & Neumann, 2008, p. 220). In contrast to Tourette's syndrome, which while varying in severity is seen as a condition that you either have or you don't have (a taxonic disorder), psychopathy is put on a spectrum. Many studies of psychopathy use results on psychopathy tests as scores to be used in correlational studies, or treat high-scoring patients as if they were psychopaths even when they don't meet the test's typical threshold score (Seara-Cardoso & Viding, 2015).

Causes of psychopathy are speculated to include genetic and environmental factors. Psychopathic patients often experience higher levels of emotional neglect compared to non-psychopathic people. This has been found both for primary and secondary psychopathy, but it is more pronounced in cases of the latter (Sethi et al., 2018). Sethi and colleagues (2018) speculate that psychopathy may be a result of emotional neglect leading to problems in the fear-conditioning response.

Despite unempathetic behavior's role as a "hallmark of individuals with psychopathy" (Seara-Cardoso & Viding, 2015, p. 727), psychopathic patients' capacity for empathy is more nuanced than popularly believed. When examining emotional faces, psychopathic patients have decreased activation in facial cortical processing areas, such as the fusiform gyrus (Seara-Cardoso & Viding, 2015, p. 726). However, this is not always accompanied by a decreased ability to identify facial expressions (Mier et al., 2014). Mier and colleagues (2014) speculate that this could be due to psychopathy reducing emotional empathy while not affecting cognitive empathy. This is supported by earlier findings suggesting psychopaths have a dysfunctional emotional theory-of-mind (ToM) but an average cognitive ToM, possibly due to problems in the orbitofrontal cortex (Shamay-Tsoory et al., 2010). Mier et al. (2014) further speculate that this may account for psychopathic patients' ability to effectively manipulate others despite their emotional dysfunction.

This is in line with several experiments suggesting that psychopaths have differences in moral processing that don't decrease moral evaluation abilities. For instance, psychopathic patients are fully able to recognize faux pas (Dolan & Fullam, 2004), and can identify moral violations and their severity with the same ability as non-psychopaths (Harenski et al., 2010).

However, they have a weaker ability to predict the emotional state of people in a faux paus situation (Dolan & Fullam, 2004), and use different brain areas when making moral evaluative judgements. Several studies also found that psychopathic patients' moral evaluation involves less activation of areas associated with affective and evaluative judgments than normal, and more involvement of cognitive control areas (Seara-Cardoso & Viding, 2015). In particular, Harenski and colleagues (2010) found that while psychopaths' severity-of-moral-violation responses correlated negatively with posterior temporal cortex activation, no such correlations were observed in non-psychopaths. Psychopathic patients also have reduced differential responses between images with and without moral violations in the anterior temporal cortex (an area associated with social concept processing) and the ventromedial prefrontal cortex (which is associated with empathy and moral decision making), despite being able to distinguish between moral and nonmoral pictures with the same level of skill as non-psychopaths. As characterized by Greenspan (2003), psychopathic patients have an understanding of moral rules in the shallow sense. However, these rules have little bearing on their decision making, due to psychopathic persons not experiencing the emotions gained from empathy that behaviorally reinforce these rules (p. 418).

Irregular activity of brain areas associated with the processing of negative stimuli and emotions is often discussed in the context of possible causes of psychopathy. Irregularities in the amygdala response to moral processing, emotional stimuli, and emotional learning have all been noted in psychopathic patients (Seara-Cardoso & Viding, 2015). Primary psychopaths in particular have been noted by Sethi and colleagues (2018) for having blunted activation of the

amygdala and insula in response to fearful facial expressions[5]. Both primary and secondary psychopathy is associated with reduced anterior cingulate activation, an area which Sethi and colleagues note has a large role in fear conditioning and emotional regulation. Atypical anterior cingulate response (particularly in the rostral region) has also been theorized to be responsible for diminished emotional response to potential punishments (Seara-Cardoso & Viding, 2015, p. 728).

Smith and colleagues (2014) found that the juror perception of psychopathy is dominated by the violent criminal, with serial killers like Ted Bundy or Jeffrey Dahmer commonly given as prototypical examples of psychopaths. Jurors successfully recognized traits such as being domineering, manipulative, self-centered and remorseless as prototypically psychopathic. Other diagnostically relevant traits, such as a lack of concentration or perseverance, are not similarly recognized as applying to psychopaths. This may be due to how psychopathy is presented in movies and TV, which Smith and colleagues (2014) found to be the most common sources of information among their participants. Movies and TV shows often portray psychopathic people as clever, conniving, and above all *competent* villains, with the intelligence to back up their machinations. While jurors reportedly did not rate psychopaths as more likely than average criminals to get away with crimes, this criminal mastermind archetype may subconsciously be why psychopaths were viewed as more intelligent than average criminals—while traits that are known to harm their ability to carry out plans were deemphasized.

[5] This is a case where the neural foundation of the disease in primary and secondary cases may differ, as Sethi and colleagues (2018) found that primary and secondary psychopaths each have distinct average neurological responses to seeing fearful faces, although neither resemble the average response of a non-psychopath.

Importantly, this means that the public is relatively unaware of some factors that may inhibit their resentment towards psychopaths. If the public perception of a psychopath is a Machiavellian serial killer with clockwork plans, then people are probably unaware that psychopathy is associated with impulsiveness. Smith et al. (2014) found that traits such as being reckless or unreliable were much less likely to be seen as prototypically psychopathic by the public than by experts, while traits such as being perfectionistic or restrained were much *more* likely to be seen as associated with psychopathy by the public than by experts (although the latter was seen as relatively unassociated with psychopathy by both groups on average). While an agent being impulsive may not be reason in and of itself to inhibit reactive attitudes, identifiable neurological causes of impulsivity may cause such inhibition by framing psychopathy as a modular condition affecting behavior through non-psychological neural structures.

Treatments for psychopathy have little success. Notably, psychopathic patients rarely feel as if they need treatment. When they do, they often consider it in rather trivial terms; Cleckley (1950) spoke of how one of his psychopathic patients' desire for help "…was more like what a man feels who looks in the mirror and decides he needs a haircut than the earnest and sometimes desperate need many people feel in their problems" (p. 67).

Methods of Distinction

We will now look at potential mechanisms of how people identify diseases as intrinsic or modular, and as resentment-inhibiting or resentment-provoking. In each case, we will look at whether the method would serve to distinguish our two archetypal cases, and if so, if it would similarly distinguish disorders along the identity question, the responsibility question, or both.

Time of Disorder Development

Time of development seems like an immediate candidate to distinguish disorders on the question of identity, if not the question of whether they more closely resemble a type A or type B disorder. Most obviously, a disorder is likely to be considered modular if it develops in adulthood. In these cases, because the disorder is a change in a pre-existing entity, it does not seem like a fundamental aspect of the entity; we can imagine them without the disorder because we have memory of it. Conversely, a disorder is likely to be considered intrinsic if one is born with it.

The case of developmental disorders is more complicated. Disorders that form in childhood have the potential to be viewed as either intrinsic or modular, and indeed are viewed differently by different groups at different times. One can consider the case of autism spectrum disorder, which until recently was popularly seen as something that stole a healthy child away from parents. Despite changing public attitudes, such narratives are still commonly touted by groups such as Autism Speaks or The Autism Community in Action. Our two archetypal disorders serve as examples of the differing classification of disorders appearing in childhood. Tourette's syndrome begins to develop in early childhood and is speculated to be a developmental disorder (Felling & Singer, 2011, pp. 12388, 12390). Psychopathic patients are similarly known for starting to show symptoms at a young age (American Psychiatric Association, 2013a, p. 660).

A possible reason for why this factor is seen in two disorders with different answers to the identity question is that we are not sure whether agents' identities are fixed while still in childhood. While we don't consider adults to be psychologically unchanging, we tend to think of

them as much more "set" in their personality and identity than children, who develop and change at a much more noticeable rate and in much more dramatic ways. There is an argument to be made that we treat an individual in their childhood as a fundamentally different entity than we do the same individual in adulthood.

To use a pulpy example, consider the changes in how people answer the question "would you go back in time and kill Hitler before he rose to power." If framed as if we were proposing to kill him as an adult (perhaps while he was in Landsberg Prison writing *Mein Kampf*), answers tend to be an enthusiastic yes. But answers tend to be split if the question is framed in terms of killing him in his childhood. Note here the difference isn't one of responsibility—in both cases we are proposing to kill Hitler *before* he commits his atrocities.

This could be because, as Watson notes (1988, p. 264), we don't tend to consider children full moral agents. They lack moral understanding, and thus feelings of indignation at their actions feel misplaced. Moreover, their capacity for moral understanding, their desire to stand in line with or reject the moral community, is not yet discernible and feels not yet set in stone. If Watson is correct about Strawsonian attitudes, behavior is an expression of an agent's moral personality, and our reactive attitudes are appraisals of their moral personality based on their behavior (1988, p. 266).

People's willingness to kill Hitler at different points in his life may then suggest at what point they think his moral personality is "fixed," if we take willingness to kill him as a reactive attitude. If people are willing to kill Hitler while he was kept in Landsburg, even though he has not yet committed his atrocities, he is judged as having the moral personality of someone

capable of committing such atrocities. If people are less willing to kill him while he's a child, that suggests they have a harder time viewing child Hitler's moral personality as that of adult Hitler.

There are cases, however, where a previously "fixed" moral personality can become unfixed, and in these cases we may not think the fact that a condition appears later in life is enough to mark it as modular. Phineas Gage's famous behavior-altering accident seems like a perfect example of this. While we could hold reactive attitudes towards pre-Führer Hitler *for* events he would commit as Führer, because we think they have the same moral personality, we would not hold reactive attitudes towards a pre-accident Gage for his post-injury disorder-affected behavior.

Applicability of Theory of Mind on Disorder-Affected Behavior

The above consideration leads us to consider our two disorder types to reflect on the moral personalities of their affected agents. Watson (1988) claims that for offending behavior to be resentment-provoking, we must view the offending agent's actions as reflecting on their moral personality (p. 266). As such, we are much less likely to feel resentful towards behavior that doesn't seem to reflect an agent's moral personality. This is a view shared by those reflecting outside of Strawson's framework—as King and May (2018) note, many believe that "responsibility is undercut…when the action fails to manifest the agent's real commitments and values" (p. 15). Looking at our two disorders, we see a distinction in how applicable an agent's "commitments and values" are in explaining disorder-affected behavior: while the actions of a psychopathic patient could be judged as the result of a "sick mind," tics often look less like anything mentally backed and more akin to a purely physical process like hiccups.

Many tics are specifically socially inappropriate—the involuntary spouting of obscene speech (coprolalia) or gestures (copropraxia) are some of the most discussed tics, and non-obscene complex socially inappropriate symptoms (NOSIS) are considered a standard feature of Tourette's syndrome (Eddy & Cavanna, 2013). Some of these may, from an outside perspective, look like behaviors acting on desires. A Tourette's patient displaying coprolalia *could* be seen as sincerely attempting to hurt others' feelings. Even tics such as throwing chairs in church[6] may be mistakenly interpreted as a purposefully disruptive activity meant to, say, protest organized religion. But the extent of these tics, as well as the regret Tourette's patients display, would be recognized by most as not compatible with a view of the behavior as motivated.

Other tics are just so bizarre that they can't be seen as a reflection of an agent's moral personality at all. Take palilalia, a tic that causes sufferers to echo their own words or phrases while speaking, quieter and less distinct with each repetition. What desire could motivate such action? The tic is only hindering the Tourette's patient. It can be expressed even when an agent is complaining about its expression—consider the palilaliatic man who kept repeating "I can't shut up" over and over again (Critchley, 1927, p. 23). Simple tics, such as barking or foot-stomping, can be especially inexplicable from a motivational perspective for the same reason. We expect actions reflecting moral personality to be goal-oriented—after all, what is a moral personality if not the types of goals people pursue, and the restrictions they place on themselves in pursuit of those goals? Seeing behavior as goal-oriented helps us explain it using ToM, putting it in terms of beliefs and desires. Using ToM makes us much more likely to use the

[6] While this is not a recorded tic, throwing chairs was reported as a premotor urge experienced by a Tourette's patient by Eddy & Cavanna (2013).

interpersonal attitude in turn, as a mind typically indicates a person, and behavior motivated by desires is often the behavior of a moral agent. But tics often don't seem to be motivated by beliefs *or* desires, even in an akratic sense, and as such the objective attitude is invoked instead. While we could theorize that an agent expressing tics was acting on some incredibly complex set of motivations, at a certain point non-psychological explanations for their behavior do more explanatory work.

The offending behavior of a psychopath, in contrast, makes sense as goal-seeking behavior. Much of psychopathic patients' offending disorder-affected behavior comes from their lack of empathy for others, which would usually limit how much we harm others. But it is common even for neurotypical agents to have low levels of empathy for certain people. Soldiers are conditioned to have reduced empathy towards enemy combatants, and bigots have reduced empathy towards the objects of their hatred. In both cases, their low empathy makes it easy to commit acts of violence in pursuit of goals (victory in battle/intimidation of the Other). We can imagine people having low empathy outside of such violent cases as well. Commonly, empathy is incredibly low without proximity—consider the difference in our willingness to help a child in need in front of us, vs. a child in need thousands of miles away (Singer, 1972). The circle of empathy is arbitrary for the best of us. As such, we could imagine a neurotypical agent partaking in manipulation and criminal actions if they wanted to gain something from another person and didn't have a sense of empathy for them. This is the (as it turns out, correct) perception we have of the actions of a psychopath, a perception that is rooted in ToM and thus is intertwined with the interpersonal attitude.

Victimhood as Distinction

Watson (1988) notes that victimhood can suspend reactive attitudes towards an agent, inviting "sympathy and understanding" (pp. 275-276). As such, if we feel that a disorder is causing a patient distress, we may be less likely to find reproach for their disorder-affected behavior. This is not due to resentment being *absent*, per se. Instead, negative reactive attitudes are inhibited by concurrent *positive* reactive attitudes brought on by the perception of victimhood.

Tourette's patients are clearly put in a position of distress by their disorder. Most obviously, some motor tics can be self-harming; headbanging tics may lead to traumatic brain injuries (Chen et al., 2019; Robertson et al., 1989). Tourette's patients also are known to express regret or irritation at ticking, suggesting that they are bothered by it. Both of these considerations make Tourette's patients feel like victims, and thus engender sympathy while weakening resentment for disorder-affected behavior.

Tourette's patients also go through significant social hardship because of their disorder. This is most true for those whose disorder-affected behavior is especially offensive—Tourette's patients with NOSIS tics have a worse quality of life than patients not suffering from such tics (Eddy & Cavanna, 2013). This leads to an interesting correlation: Tourette's patients have *more* reason to be seen as victims, causing reactive attitudes towards their disorder-affected behavior to be inhibited, *when their actions are socially offensive*.

Psychopathic patients do not feel like victims in the same way. This is puzzling upon consideration: after all, while psychopathy is not to my knowledge associated with self-harm, it *is* associated with reckless behavior. Greenspan (2003) notes that psychopathic patients' lack of negative emotional associations with past failures can lead to problems in planning and

decision making (p. 420). Is this not an example of self-harming (or at least self-sabotaging) behavior brought on by a mental disorder? It is possible that psychopathic patients *know* the risks of their behavior and just lack the emotional motivation such knowledge usually brings. If a psychopathic patient's circumstances are brought on as the result of considered behavior, we may be less likely to see it as tragic, and the patients themselves as victims. But in cases where a psychopathic patient's inability to process punishment prevents them from *knowing* their actions' likely consequences, this reasoning does not apply. It is difficult to know which explanation is better for such behavior from the outside.

We could also see psychopathic patients as victims of their commonly poor childhoods. This could serve as a source of victimhood and a sympathetic explanation for the disorder, as some psychologists believe that emotional neglect may play a role in the development of psychopathy (see Sethi et al., 2018). However, as noted above, we may see children as fundamentally different types of entities from their adult selves. As such, we could see the psychopath as a victim during childhood but not adulthood. The public may also be unaware of the high rates of abuse associated with psychopathy patients, or dismiss the possibility of it as a cause. As previously stated, Eddy & Cavanna (2013) found that jury members did not highly rate poor parenting as an explanation for psychopathy. People may not see psychopaths as victims, then, because they do not have all the relevant information when forming such intuitions.

Regret as Distinction

But it is also possible that psychopaths do not make easy victims because they show little regret for their disorder-affected behavior. Apologies often cause positive reactive attitudes in the form of appreciation or satisfaction. As our negative reactive attitudes are

reactions to a demand for goodwill not being met, an attempt to show goodwill through an apology can mute previous negative reactive attitudes and inspire positive ones.

Signs of regret also gives us reason to lessen our judgements regarding how actions reflect on an agent's moral personality: if they sincerely regret their offending behavior, then we have reason to believe that they were *not* attempting to offend, and that offending us is against their intentions. This once again makes ToM explanations of behavior less applicable, increasing the likelihood of the objective attitude being used. Alternatively, an agent's regret could indicate that along with whatever malicious aspects of moral personality motivated the offending behavior, conflicting beneficent aspects also exist to motivate the regret. To use Frankfurt's terminology (1988), the offending behavior could be a result of first-order desires, while the regret could indicate second-order desires to not be an insulting person.

Basis of Disinhibition as Distinction

Both Tourette's syndrome and psychopathy can be described as causing disinhibition, although in substantially different ways. Tics are thought to be caused by dysfunctional basal ganglia failing to inhibit the motor cortex, while the increased manipulativeness and criminality of a psychopathic patient is thought to be due to the absence of normal inhibiting factors like fear conditioning and empathy. Notice, however, that these disinhibiting factors are occurring at different levels of decision-making.

While disinhibition in its colloquial sense would be a state in which it is easier to act on your immediate desires, the "disinhibition" caused by a dysfunctional basal ganglia reduces the role of choices on behavior. The conscious experience is of having a behavior thrust upon you, an urge that can only be resisted through stomaching a painful and mounting tension. In this

sense, Tourette's syndrome reduces an agent's behavioral inhibition in the same way torture was used on captives in the Spanish Inquisition to reduce their "not confessing" inhibition. King and May (2018) claim that an important aspect of several theories of responsibility is the ability to "identify and assess reasons…. upon which we can then act" (p. 15). We've already discussed how it's difficult to account for tics in such terms while looking in from the outside at behavior. Looking at the neurological basis for the disorder, it appears that tics affect the ability for identified and assessed reasons to play roles in behavior, by preventing the correct functioning of the mechanism from which reasons limit behavior

It may be argued that the urge to tic should not be considered separately from other goals or desires: after all, can we give a rational *reason* for every desire a neurotypical agent has? The urge to echo myself may have a different neurological basis than the urge to go kayaking, but neither are *rational*. And sure, expressing tics doesn't cause positive emotions so much as lessen negative ones, but achieving desires need not bring joy for them to have been desires in the first place. This would be ignoring, however, that choosing not to express tics is painful—not just metaphorically, but in the strictest sense. We do not "desire" to go kayaking because doing otherwise would cause us pain; desire *is* the motivating factor. Pain avoidance and desire are two different types of motivations. Because of this, as Schroeder (2005) argues, tic expression should be thought of not as reflecting desires, but as reflecting non-psychological neural structures.

In contrast, the disinhibition of the psychopathic patient seems to match the more traditional sense of the word: various concerns that would normally stop an agent from behaving a certain way, such as fear of punishment, have reduced ability to stop an agent from

acting on their immediate desires. And these actions *do* seem to reflect desires; as we've discussed, theory of mind explanations for a psychopathic person's disorder-affected behavior is simple.

Again, one could argue that many concerns that would prevent behavior should not be considered "inhibiting." A blind and deaf person would not be said to be acting disinhibited when walking into oncoming traffic. But they are simply lacking a concern (knowledge of traffic gleamed from light and sound) that would normally discourage such behavior. How does this differ from psychopathy? The difference is that what psychopathic patients are lacking is not knowledge, but motivation gained from that knowledge. Whether certain stimuli, if processed, produce evaluative judgements or affect decision-making, is a question about an agent's moral personality. Whether certain stimuli is processed in the first place is a question of epistemology.

Applicability to the Positivity Effect

We can first note that the positivity effect does not match most of the characteristics we've associated with modular conditions. It develops late in life, certainly, and knowing that an adult functioned and made decisions without the positivity effect for years could cause us to see the positivity effect as a condition not reflective of the adult's moral personality. But as we've discussed in the case of Phineas Gage, this is not enough on its own for a firm judgement on whether it is a truly modular condition.

A problem for an analysis of the positivity effect as a modular disorder comes from the high possibility of it being a result of affected patient's own goals. Two main theories exist for the positivity effect; the first of these, the socioemotional selectivity theory (Carstensen et al.,

1999), claims that a person's perception of how much time they have left affects their goals. This perception of your remaining lifespan is called a time horizon. Those with an expansive time horizon, such as young adults, are expected by the SST to prioritize knowledge acquisition and seek out novel experiences. This includes experiences that may include negative stimuli, as learning what to avoid is an important aspect of knowledge acquisition. In contrast, those with a limited time horizon, such as older adults, are expected to prioritize emotional wellbeing. As such, while those with an expansive time horizon will pay attention to and remember stimuli of any emotional valence, those with a limited time horizon will pay attention to and remember only positive stimuli, to benefit their mood.

Support for the SST comes from Barber and colleagues' (2016) study showing that adults of any age, after being asked to plan for a future in which they would only have six months left to live (a limited time horizon condition), had a greater average positivity-of-recall than adults asked to plan for a future in which they would live to age 120 (an expansive time horizon condition). In a second experiment conducted as part of the same study, adults in the limited time horizon condition were shown to have a greater positivity-of-recall than a control group asked to reflect on their day, while adults in the expansive time horizon condition did not differ significantly from the control. From this, it seems that merely reflecting on being in a limited time horizon is enough to cause symptoms similar to the positivity effect.

This is a heavy blow for any attempt to apply the objective attitude. One of the major reasons why mental disorders are thought to affect responsibility at all is that disordered patients didn't choose to be the way they are. If positivity effect patients *did* in fact choose the positivity effect in some way, it strips away any perception of the condition being moral luck. If

the positivity effect is caused by a shift in goals, then it seems like it could be described as the realization of a second-order desire. Older adults (and young adults faced with a limited time-horizon condition) desire emotional wellbeing over knowledge, and so change the way they devote mental resources. Although this process is presumably unconscious, it comes dangerously close to being something that an agent deliberately chooses. If this is the case, it could naturally be described in ToM terms and be seen as a disinhibiting disorder in the traditional sense of the word. All of this would point to the positivity effect as being a natural fit for reactive attitudes.

However, another theory places the blame on strictly neurological factors, specifically age-related degradation of the amygdala. A small-scale study conducted by Berntson and colleagues (2007) found that patients with amygdala lesions had reduced emotional arousal to negative images compared to patients without lesions or with lesions in unrelated areas. This has led to the creation of the Aging Brain Model, which suggests the positivity effect may be caused by damage to the amygdala, which is known to atrophy with age (Kurth et al., 2018). Because emotional arousal aids in memory encoding, diminished emotional responses to negative stimuli caused by damage to the amygdala could lead to negative stimuli not being encoded properly[7].

This would suggest that in many cases, the positivity effect resembles psychopathy in limiting the possibility for emotional association with negative stimuli to play a role in decision-making. As in cases of psychopathy, this would indicate a neurological cause for an unusual

[7] The aging brain model has been criticized, as experiments have failed to establish a correlation between positivity-of-recall scores and fear conditioning response, which the amygdala plays an important role in (Sakaki et al., 2019). This suggests the positivity effect is not associated with dysfunction of the amygdala.

moral personality to appear, but a cause that does not on its own seem to exempt an agent from responsibility.

Conclusion

In nearly every aspect that would affect how a mental condition answers the identity and responsibility questions, the positivity effect more closely resembles psychopathy than Tourette's syndrome. As such, we have reason to consider older adults responsible for disorder-affected behavior caused by the positivity effect. The one exception to this is the time of disorder development: a condition appearing later in life often marks it as modular. However, given that the positivity effect affect's older adult's moral personality (and may be caused *by* it, according to the SST), this instead may indicate that intrinsic aspects of our identity should not be viewed as set and unchanging. The question of how personal identity can be compatible with gradual changes in moral personality need to be further explored, especially if conditions that affect the moral personality of most people throughout their life, such as the positivity effect, continue to be found.

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