



Pluralism and incommensurability in suicide research

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ABSTRACT

This paper examines the complex research landscape of contemporary suicidology from a philosophy of science perspective. I begin by unpacking the methods, concepts, and assumptions of some of the prominent approaches to studying suicide causation, including psychological autopsy studies, epidemiological studies, biological studies, and qualitative studies. I then analyze the different ways these approaches partition the causes of suicide, with particular emphasis on the ways they conceptualize the domain of mental disorder. I argue that these different ways of partitioning the causal space and conceptualizing mental disorder result in incommensurabilities between the approaches. These incommensurabilities restrict the degrees to which the different approaches can be integrated, thus lending support to explanatory pluralism in the study of suicide causation. They also shed light on some of the philosophical underpinnings of the disagreement between mainstream suicidology and the emerging area of critical suicidology.

1. Introduction

Suicide is a major concern for society worldwide. Globally, over 800,000 people die from suicide each year and it is among the ten leading causes of death in most countries (World Health Organization, 2014). Given the seriousness of the problem, a number of scientific disciplines have made efforts to investigate the causes of suicide and initiatives for suicide prevention have been proposed by major public health organizations (Department of Health, 2012; World Health Organization, 2014).

Approaches to studying the causes of suicide have taken a variety of forms. This paper focuses on a subset these. Psychological autopsy studies seek to ascertain retrospectively the precedents of suicides by interviewing informants who were close to the victims and by examining medical records (Appleby et al., 1999; Barraclough et al., 1974; Foster et al., 1997). Epidemiological studies examine the associations between suicide rates and various social factors within and across populations (Afifi et al., 2008; Durkheim, 1951 [1897]; Gunnell et al., 1995; Hawton et al., 1999; Whitley et al., 1999). Biological studies investigate the genetic and neurobiological factors correlated with suicidal behaviors (Mann, 2003; Schulsinger et al., 1979; Wender et al., 1986). Qualitative studies seek to understand the meanings that suicidal acts have within the cultural and political contexts in which they occur (Cover, 2016; Hjelmeland & Knizek, 2010; White & Kral, 2014). These four approaches in no way exhaust the variety of approaches to studying suicide causation, but I have selected them because they highlight the diverse kinds of factor that are implicated in

suicide causation and, more importantly, the divergent ways in which different disciplines conceptualize these kinds of factor. Hence, while they do not reflect the full range of methodologies used in contemporary suicidology, they serve to illustrate the philosophical issues that are of relevance for the purpose of this paper.

Although a substantial amount of research into suicide causation has been conducted through these various approaches, there remains considerable uncertainty about how to approach suicide prevention. This is not a mere empirical issue, but reflects a deeper epistemological problem, namely that of making sense of how the diverse approaches to studying suicide causation relate to one another. As noted by the psychiatrist Diego De Leo, research teams find it difficult enough to reconcile the contributions of biologically and psychologically oriented investigators, but this is even “further complicated by the need to evaluate also other important concomitant factors, such as socio-economic, cultural and religious aspects” (De Leo, 2002, p. 372).

In view of this problem, a number of prominent suicide researchers have made differing suggestions about how the field should continue. The psychologist David Lester (2000) criticizes the way in which suicide research is no longer formulating new theories of suicide, but has become fixated on replicating results from studies examining the psychiatric, epidemiological, and neurobiological factors associated with suicide. Accordingly, he suggests that it is “depressing to see the same kinds of research being conducted as had been published many many times before” (Lester, 2000, p. 158). In the extensive critique by Lester and the psychologist James Rogers, recommendations for improving the methodologies of various approaches to studying suicide are

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offered, including the suggestion that research should be informed by novel theories “rather than conducted at a purely empirical level and then related back to any theory that seems relevant” (Rogers & Lester, 2010, p. 35). The psychiatrist Andrej Marušič argues that suicidology needs to move beyond data gathering through disparate approaches, as this could make us “sink in a sea of knowledge about suicide risk factors that are in danger of drowning out the real context of suicidal risk” (Marušič, 2008, p. 115). Instead, he suggests the need for the different disciplinary approaches to be integrated. In recent years, critiques of contemporary suicide research have also come from researchers from an emerging area of scholarship known as critical suicidology. Critical suicidology researchers disagree with the privileging of quantitative studies, which they view as reflecting political interests and power relations that favor biomedical approaches to framing suicide and self-harm. Instead, many of them advocate more qualitative studies that bring to light the contextual aspects of suicide (Hjelmeland & Knizek, 2010; Marsh, 2015; White, 2015).

Despite these critiques from scholars working within mainstream suicidology and critical suicidology, the complex research landscape of contemporary suicidology has hitherto not been examined from a philosophy of science perspective. This is the task of the current paper. My contention herein is that while the aforementioned difficulties in contemporary suicidology are clearly marked by professional and political disagreements, these disagreements are underpinned by differing conceptual assumptions about the relations between different kinds of causal factor and about the domain of mental disorder. Drawing on a framework used by the philosopher Helen Longino (2013) in her recent work on behavioral science research, I offer a philosophical analysis of these differing conceptual assumptions of the various approaches to studying suicide causation. Through this philosophical analysis, I aim to arrive at a clearer understanding the logical relations between the different approaches, which in turn can allow us to appreciate more clearly their respective contributions and limitations. Furthermore, I propose that such a philosophical examination can contribute to the critical discussion of contemporary suicidology by showing the extents to which the aforementioned recommendations of previous critics of suicidology can be sustained.

The rest of this paper will proceed as follows. In §2, I will survey the methods, concepts, and assumptions of the different contemporary approaches to studying suicide causation. In §3, I will use Longino's (2013) concept of the causal space to analyze the different ways in which these approaches partition the causes of suicide, with particular emphasis on how they conceptualize the domain of mental disorder. In §4, I will argue that the different ways of partitioning the causal space and conceptualizing the domain of mental disorder result in incommensurabilities among the different approaches. These incommensurabilities shed light on the conceptual disagreement underpinning the dispute between critical suicidology and mainstream suicidology. They also preclude the different approaches in mainstream suicidology from being fully integrated into a unified framework, thus lending support to explanatory pluralism in the study of suicide causation.

2. Approaches to studying suicide causation

2.1. Psychological autopsy studies

A significant obstacle to understanding what causes a person to take his or her own life is that the person cannot be interviewed following the suicide (Cavanagh et al., 2003). Psychological autopsy is a retrospective study method which attempts to circumvent this obstacle by gathering information about the antecedents of the suicide from other sources. These include interviews with informants who were close to the victim and evidence from health care, social work, and criminal records. From this information, retrospective inferences are made about the psychological and social circumstances of the victim around the

time of death. Additionally, by examining the information gathered from multiple cases and by comparing them with information gathered from controls, correlations are observed between particular risk factors and suicide.

The variables that are typically measured by psychological autopsy studies are the presence of mental disorder and certain social factors. Mental disorder is usually classified according to diagnostic manuals, such as the tenth revision of the World Health Organization's *International Classification of Diseases (ICD-10, 1992)* and the fifth edition of the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders (DSM-5, 2013)*. The definitions of the psychiatric diagnoses in these manuals consist of descriptions of symptoms, which serve as diagnostic criteria. Information about the mental health histories of victims is also gathered from records of contact with mental health services. The social factors that are measured by psychological autopsy studies include employment status, relationship status, living circumstances, and adverse events. Some of these are ascertained through structured interview, such as the Life Events Schedule (Paykel, 1983).

The most consistent finding reported by psychological autopsy studies is that the vast majority of people who die from suicide are suffering from some form of mental disorder at the time of death (Appleby et al., 1999; Barraclough et al., 1974; Foster et al., 1997). In a systematic review of psychological autopsy studies by Jonathan Cavanagh and colleagues, this figure is estimated to be ninety percent (Cavanagh et al., 2003). The diagnosis that is reported to have the strongest association with suicide is depression, but comorbid mental disorders and substance misuse are also reported as having significant associations. Certain social factors are also reported as being strongly associated with suicide, including adverse events, interpersonal problems, abuse, and unemployment (Appleby et al., 1999).

The methods and conclusions of psychological autopsy studies involve a number of assumptions. A methodological assumption is that interviewing informants is a valid way of ascertaining the presence of mental disorder. Critics of psychological autopsy studies argue that the testimonial reports of informants are liable to retrospective biases, because friends and family members of the victims may be easily suggestible to psychiatric explanations for the suicidal acts (Hjelmeland et al., 2012; Pouliot & De Leo, 2006). However, it has been suggested that these biases may partly be offset by gathering corroborating evidence from other sources, including medical records (Cavanagh et al., 2003).

A further assumption is that mental disorder and social factors are independently associated with suicide. Sometimes, this is given some justification. For example, in a psychological autopsy study by Louis Appleby and colleagues, a factor analysis suggested that different kinds of variable can be treated independently and that suicide risk is related to the number of variables present (Appleby et al., 1999). However, a problem with treating mental disorder and social factors as being independently associated with suicide is that it does not capture the contingent and dynamic ways in which these different variables may interact with one another. Certain combinations of variables may interact to increase suicide risk in ways that are not straightforwardly additive. Furthermore, certain social factors and symptoms of mental disorder may reinforce one another via dynamic feedback loops that are not captured by the kind of statistical analysis used in psychological autopsy studies.

The concept of social environment assumed in some of these studies poses further challenges. While using standard diagnostic manuals such as *ICD-10* and *DSM-5* to define mental disorder is justifiable, it is less clear whether the way the social environment is sometimes conceptualized adequately captures the diversity of factors that could influence suicide risk. In the systematic review by Cavanagh and colleagues, the kinds of social factor that are considered are restricted to social isolation and adverse life events, broadly construed (Cavanagh et al., 2003). One concern is that these categories may be too broad to

discern the influences of more specific social factors on suicide risk. For example, bereavement, sexual assault, and debt could have different influences on suicide risk, but classifying all three under the category of adverse life events would obscure the respective influence of each.

Another concern is that there may be causally relevant social factors that are not captured by the categories of social isolation and adverse life events. For example, a psychological autopsy study is typically conducted on a restricted study population with a given cultural background. Accordingly, aspects of this cultural background are not explicitly measured, but are taken for granted. Even in the systematic review by Cavanagh and colleagues, the overwhelming majority of the studies are from Western Europe and the United States, which share similar cultural backgrounds (Cavanagh et al., 2003). Given that the wider cultural and political factors that may be particular to a given study population can differ across different populations, the results from a psychological autopsy study conducted in one population cannot be straightforwardly generalized to other populations.

Proponents of psychological autopsy studies often suppose that the observed association between mental disorder and suicide implies a causal connection between the two, rather than a correlation due to some other reason. For example, they often suggest in their conclusions that the incidence of suicide can be reduced by intervening on mental disorder (Cavanagh et al., 2003; Foster et al., 1997). Moreover, Cavanagh and colleagues even claim that “improving the detection and treatment of all disorders, particularly in primary care, may be the most effective way of reducing suicide rates” (Cavanagh et al., 2003, p. 402). And so, although mental disorder and certain social factors are identified by psychological autopsy studies as risk factors for suicide, mental disorder is often assumed to have causal privilege over the social factors.

2.2. Epidemiological studies

Epidemiological studies seek to establish the associations between various social factors and the incidence of suicide within and across populations. Some studies focus on aspects of the interpersonal environment, including rates of childhood abuse, divorce, unemployment, and homelessness (Afifi et al., 2008; Gunnell et al., 1995). Other studies focus on aspects of the wider society, including cultural factors, economic events, political circumstances, social fragmentation, and media portrayals of suicide (Durkheim, 1951 [1897]; Hawton et al., 1999; Stuckler & Basu, 2013; Whitley et al., 1999). The rates of mental disorder in the study populations are also sometimes obtained from health care records.

A typical kind of epidemiological study is the ecological study. Ecological studies measure the rates of certain social factors and the rates of suicide in different populations defined either geographically or temporally. Information about the rates of these factors in the populations may be obtained through various sources, including census databases, public health surveys, patient administration systems, social work records, questionnaires, and interviews with study participants. Standard statistical methods are then used to compare the results from different populations, with a view to ascertaining the associations that these measured factors have with suicide.

Perhaps the most influential epidemiological study on suicide is that conducted by Emile Durkheim (1951 [1897]). In the late nineteenth century, Durkheim examined the associations between various social factors and the variations in suicide rates within France, and between France and other countries in Europe. He found that suicide rates were higher among men than among women, among people who are single than among people in sexual relationships, among childless individuals than among parents, and among soldiers than among civilians. These results led him to conclude that social integration and social regulation are important factors that influence suicide risk.

More recent epidemiological studies have demonstrated associations between suicide and various other social factors. For example, at

the level of the interpersonal environment, Tracie Afifi and colleagues have shown that adverse childhood events, including physical abuse, sexual abuse, and exposure to domestic violence, are strongly associated with increased rates of suicide and mental disorder (Afifi et al., 2008). David Gunnell and colleagues have shown that economic deprivation and unemployment are also associated with increased rates of suicide and psychiatric admission (Gunnell et al., 1995). At the level of the wider society, David Stuckler and Sanjay Basu have shown that government austerity policies cause suicide rates to rise significantly, whereas countries which respond to economic difficulties by investing in social welfare programs do not exhibit increased suicide rates (Stuckler & Basu, 2013). Elise Whitley and colleagues have shown that areas characterized by high social fragmentation are associated with increased suicide rates and that this holds regardless of individual socioeconomic status (Whitley et al., 1999). With respect to the influence of the media on society, Keith Hawton and colleagues have shown that rates of suicide and attempted suicide increase after the showing of television programs and films depicting suicide (Hawton et al., 1999). There is also evidence that restrictions on lethal means such as firearms, poisons, and jump sites are associated with decreases in suicide rates (Azrael & Miller, 2016).

In contrast with psychological autopsy studies and biological studies which investigate factors at the individual level, epidemiological studies instead investigate factors at the population level and how they correlate with suicide rates among different populations. Accordingly, epidemiological studies are capable of measuring and comparing some of the wider properties of populations that are taken for granted by psychological autopsy studies conducted in single study populations. However, an assumption of this epidemiological approach is that the individuals in the study populations resemble one another in the internal factors that influence their behaviors and that the observed differences in the rates of these behaviors are attributable to differences in the external properties of their wider environments (Longino, 2013, p. 121).

Epidemiological studies also sometimes, though not always, capture more specific kinds of social factor than do psychological autopsy studies. For example, Afifi and colleagues do not just measure the association between suicide risk and childhood adversity broadly construed, but distinguish between more specific kinds of childhood adversity, namely physical abuse, sexual abuse, and exposure to domestic violence, in order to discern how each is associated with suicide risk (Afifi et al., 2008). In the study by Hawton and colleagues, the factor being measured is the portrayal of suicide in visual media, which is not captured by the categories of social factor assumed in psychological autopsy studies (Hawton et al., 1999).

As mentioned above, epidemiological studies do sometimes measure rates of mental disorder. However, there are some differences between epidemiological studies and psychological autopsy studies regarding how mental disorder is measured. First, epidemiological studies often treat mental disorder as an outcome measure alongside suicide (Afifi et al., 2008; Gunnell et al., 1995). Hence, in contrast with psychological autopsy studies which seek to measure the contribution of mental disorder to suicide risk, epidemiological studies instead often measure the contributions of certain social factors to the rates of mental disorder and suicide in the study populations. Second, while psychological autopsy studies can, in addition to examining medical records, use structured interviews of informants to retrospectively assign psychiatric diagnoses to suicide victims who may not have been in contact with the mental health services, epidemiological studies have to rely on documented data from health records in order to measure the rates of mental disorder in the population. As a result, people who have not been in contact with mental health services are not likely to feature in the statistics for the rates of mental disorder provided by epidemiological studies.

2.3. Biological studies

Biological studies seek to investigate the genetic and neurobiological factors correlated with suicidal behaviors. The discipline of quantitative behavioral genetics seeks to measure how much of the variation in the expression of a given trait in the studied population is correlated with genetic variation in that population and how much is correlated with environmental variation in that population. This is achieved by comparing the concordance rates for the trait in groups of people with different degrees of genetic relatedness, such as in biological siblings versus adoptive siblings or in monozygotic twins versus dizygotic twins. Family studies have demonstrated that the concordance rates for suicide are higher in groups of related people than in groups of unrelated people and that suicide rates are higher in relatives of people with affective disorders than in relatives of people without affective disorders (Schulsinger et al., 1979; Wender et al., 1986).

Proponents of quantitative behavioral genetics take these results to indicate that suicide has a heritable component. However, this claim requires some further qualifications. First, as noted by Elliott Sober (1988), the calculated heritability of a trait is neither a measure of the degree to which the presence of the trait in an individual is caused by the individual's genes, nor a measure of the degree to which the trait in general is caused by genetic factors, but rather is a measure of the degree to which the variation in the expression of the trait in the study population is correlated with genetic variation in that study population. Hence, the claim that suicidality has a heritability of x does not mean that x proportion of a person's suicidality is caused by the person's genes, or that genetic factors are responsible for x proportion of suicidality in general. Rather, it means that x proportion of the variation in the expression of suicidality in a given population is correlated with genetic variation in that population. Second, as argued by Richard Lewontin (1974), the calculated heritability is specific to the given study population and does not straightforwardly generalize to other populations. This is because the members of the study population are exposed to a certain range of environmental variables that may be particular to that population. The members of a different population may be exposed to a different range of environmental variables, and so the measure of heritability is also likely to be different.

While quantitative behavioral genetics can measure how much variation in the expression of a trait correlates with genetic variation in a population, it cannot locate the specific genes or mechanisms associated with the trait. The neurobiological approach to suicide seeks to locate and characterize the neural mechanisms and structures correlated with suicide. Different kinds of neural correlate may be investigated, including neurotransmitters, genes associated with neuroreceptors, and neuroanatomical structures. The methods for investigating these factors include postmortem examinations of the brains of suicide victims, neuroimaging examinations of living participants, and observations of participants who have sustained brain lesions. Such neurobiological investigation has suggested a range of factors correlated with suicidality, including decreased serotonin pathway activity, decreased concentrations of serotonin metabolites in cerebrospinal fluid, increased activity of the hypothalamus-pituitary-adrenal axis, and decreased activity in the prefrontal cortex (Mann, 2003).

There are two assumptions made by the neurobiological approach to studying suicide which are important to note. The first assumption concerns the interpretation of the direction of causation when a correlation is observed between suicidal behavior and a particular neural state or process (Longino, 2013, pp. 74–77). Sometimes, it is assumed that such a correlation suggests that the suicidal behavior is caused by the neural state or process, but there are also other possibilities. For example, given that the brain can change in response to behavior, it is possible that the observed neural state or process is caused by the suicidal behavior. It is also possible that the suicidal behavior and the observed neural state or process have a common cause, such as

psychological stress. The second assumption concerns the relation between the genome and the neural substrate. Sometimes, it is assumed that the neural substrate is genetically determined, but this assumption is often unsupported. Given the brain's neuroplasticity, that is, the dynamic ways in which it changes in response to environmental stimuli throughout development, the observed neural substrate cannot always be treated as the direct expression of the genome (Longino, 2013, pp. 129–130). Therefore, differences between the neural substrates of individuals cannot be straightforwardly attributed to genetic differences between the individuals, as they may also be attributable to environmental differences.

2.4. Qualitative studies

Like epidemiological studies, qualitative studies are interested in the interpersonal and social factors associated with suicide. However, the aims and methods of the two approaches are very different. Epidemiological studies seek to establish the quantitative relations between the rates of certain social factors and the rates of suicide. By contrast, qualitative studies are not interested in establishing such quantitative relations, but seek to understand the meanings that suicidal acts have within the social contexts in which they occur (Hjelmeland & Knizek, 2010). Understanding these suicidal acts may require knowledge of how historical, cultural, and political contexts shape the social conventions, meanings, and behavioral scripts that enable these suicidal acts. For example, in their discussion of a 15-year-old girl who died from suicide after enduring cyberbullying and sexual exploitation, Jennifer White and Michael Kral argue that her suicide can be understood as a culturally mediated response to a “local context that included interpersonal violence, harassment, and cruelty, all of which exist within a larger societal/cultural context of sexism, gender violence, misogyny, and the sexual objectification of girls' and women's bodies” (White & Kral, 2014, p. 126). In his discussion of the high suicide rates in Aboriginal communities, asylum seekers, and refugees in Australia, Rob Cover (2016) argues that lost communal practices and exclusion from sociality result in conditions that make unliveability thinkable among these marginalized groups.

As noted earlier, qualitative studies are often associated with the emerging area of scholarship known as critical suicidology (Hjelmeland & Knizek, 2010; Marsh, 2015; White, 2015). Critical suicidology researchers dispute the portrayal of suicide as a pathological act whose source is situated in the individual and the positivistic assumption that research into suicide can only proceed via “hypothesis testing with fair tests using valid and quantifiable metrics” (Joiner, 2011, p. 471). They argue that suicide should be understood as a social, cultural, and political issue, instead of just a mental health issue. Accordingly, they propose that qualitative studies are required to understand the social, cultural, and political contexts that enable and shape suicidal acts.

It must be noted, however, that while critical suicidology researchers tend to endorse qualitative studies, not all critical suicidology research is qualitative. For example, the epidemiological research by Stuckler and Basu (2013) on the rises in suicide rates due to government austerity measures is quantitative, but could fall within critical suicidology scholarship inasmuch as it highlights the political context of suicide. Similarly, the mixed methods study by Elizabeth McDermott and colleagues on suicidality in lesbian, gay, bisexual, and transgender youth has a quantitative component, but could be considered to fall within critical suicidology scholarship inasmuch as it characterizes suicide as a political issue (McDermott et al., 2018). Hence, critical suicidology scholarship is not wholly coextensive with qualitative suicide research, although the two are closely associated. Accordingly, qualitative studies of suicide often reflect the interests and assumptions of critical suicidology.

A feature of critical suicidology that is quite often reflected in qualitative suicide research is a critical attitude towards the claim that the vast majority of people who die from suicide are suffering from

some form of mental disorder at the time of death. While the role of mental disorder in suicide causation is not altogether denied, it is suggested that its significance is overstated and that mental disorder itself must be understood as being contextual. White and Kral (2014) argue that framing certain sorts of distress in psychiatric terms as illnesses situated within individuals detracts from the social circumstances that enable these sorts of distress and dismisses the reasons that the sufferers have for feeling these sorts of distress. Sometimes, the disagreement between mainstream suicidology and critical suicidology over the causal role of mental disorder in suicide is portrayed as being an empirical disagreement about whether commonly reported figure of ninety percent for the proportion of suicides associated with mental disorder is accurate or inaccurate (Hjelmeland et al., 2012). However, I shall later argue that this disagreement is not just empirical, but also has a conceptual basis relating to the different ways in which the different approaches characterize the domain of mental disorder.

3. Conceptualizing the causes of suicide

3.1. The causal space

Having surveyed some of the methods, concepts, and assumptions of the different approaches to studying suicide causation, I now compare the ways in which the different approaches characterize their respective domains of investigation. This comparison will clarify in greater depth how the different approaches logically relate to one another. That is to say, it will underscore what the different approaches have in common, where they disagree, to what extents they can be integrated, and in what respects they are incommensurable.

My analysis draws on a framework developed by the philosopher of science Helen Longino in her book *Studying Human Behavior* (2013). Longino examines the relations between different approaches to studying aggression and sexuality, including quantitative behavioral genetics, social-environmental approaches, molecular behavioral genetics, neurobiological approaches, and integrative approaches. She introduces the concept of the causal space to analyze the ways these different approaches partition their respective domains of investigation into different kinds of causal factor. These include allele pairs, the whole genome, the intrauterine environment, physiology, nonshared environment, shared environment, and socioeconomic status. Longino notes that “each approach parses this potential causal space in different ways: some attend only to factors in one block, treating the others as inactive; others try to assign portions of the variance to different blocks, treating one subset as active and the complementary subset as inactive” (Longino, 2013, pp. 126–127). She also argues that these different ways of parsing the causal space result in incommensurabilities between the different approaches.

Applying this to the study of suicide causation, the potential causal space includes the following kinds of causal factor:

- a. Genetic factors (e.g., allele pairs, whole genome)
- b. Neurobiological factors (e.g., neuroanatomy, neurophysiology, neurochemistry)
- c. Individual psychology (e.g., personality traits, mental disorders)
- d. Interpersonal environment (e.g., abuse, deprivation, suicide of family member)
- e. Wider society (e.g., cultural attitudes, historical events, political context)

As we shall see, the different approaches to studying suicide causation surveyed earlier parse this potential causal space in different ways. Moreover, they conceptualize the different kinds of causal factor in different ways.

Psychological autopsy studies partition the causal space into individual psychology and the interpersonal environment, with individual psychology predominantly being characterized in terms of the

presence or absence of mental disorder. Individual psychology and the interpersonal environment are often treated as being independent, but the former is assumed to have causal privilege. Genetic factors and neurobiological factors generally cannot be measured through interviews with informants, and so these are not taken into account by psychological autopsy studies. Also, because any given psychological autopsy study is typically restricted to a specific study population, cultural and political aspects of the wider society in which the population is situated are not explicitly measured. Rather, they are taken for granted or treated as inactive.

Epidemiological studies characterize the causal space differently. Because different populations can be compared, wider societal factors can be explicitly treated as active difference makers. Hence, the interpersonal environment and the wider society are emphasized as the locations of effective variations, while genetic factors and neurobiological factors are treated as inactive or uniform. Individual psychology, notably the incidence of mental disorder, is sometimes, albeit not always, measured as an outcome measure alongside suicide.

Biological studies, by contrast, treat the genetic factors and the neurobiological factors as being the locations of effective variations. As with psychological autopsy studies, biological studies are typically restricted to specific study populations, and so wider societal factors are not explicitly measured, but are taken for granted. Some attention is paid to the interpersonal environment in quantitative behavioral genetics, but not so much in neurobiological studies. In quantitative behavioral genetics, the causal space is divided into genetic factors and factors in the interpersonal environment. Genetic variation is measured against an environmental background that is assumed to be stable and, conversely, environmental variation is measured against assumed genetic similarity. Neurobiological studies focus on describing the neural substrates that are associated with suicidality. These neural substrates are not direct expressions of genes on their own or of environmental factors on their own, but are causally influenced by contingent and complex interactions of genetic, interpersonal, and social factors. Hence, the neural substrates being measured must be treated as independent factors relative to the unmeasured genetic, interpersonal, and social factors that jointly produce them. Furthermore, while it may be tempting to assume that particular genetic factors and neurobiological factors correlate with particular individual psychological factors, such as certain mental disorders, this turns out not to be the case. Some psychiatric diagnoses may be associated with a heterogeneous range of genes and neural substrates, some genes and neural substrates may be nonspecifically found in a wide range of psychiatric diagnoses, and some psychiatric diagnoses may not be associated with any distinctive genetic differences or neurobiological changes. Therefore, genetic factors, neurobiological factors, and individual psychological factors must be treated as independent, though causally related, factors.

Qualitative studies, particularly those associated with critical suicidology, focus on the interpersonal environment and the wider society. However, unlike epidemiological studies, they do not characterize these interpersonal factors and social factors as quantifiable variables, but as meaningful phenomena that must be understood qualitatively and contextually. According to critical suicidology, claims about the influences of genetic factors, neurobiological factors, and individual psychology can only be interpreted relative to the contexts set by the interpersonal environment and the wider society.

3.2. The domain of mental disorder

Further compounding the different ways of partitioning the causes of suicide are the different ways in which the approaches conceptualize the domain of mental disorder. This is most obvious with respect to the ways in which psychological autopsy studies, which are paradigmatic of mainstream suicidology, and qualitative studies, particularly those associated with critical suicidology, conceptualize this domain. Psychological autopsy studies define mental disorder according to

formal diagnostic manuals such as *DSM-5* (American Psychiatric Association, 2013) and *ICD-10* (World Health Organization, 1992). These manuals are intended to be global classification systems, and so they consider the category of mental disorder to be universally applicable. For example, a set of behaviors that meets the symptom criteria for major depressive disorder is taken to constitute a case of major depressive disorder, irrespective of the social, cultural, and political contexts in which the set of behaviors is expressed. The manuals do contain sections intended to inform the clinician about how the person's culture might influence the way in which the disorder manifests, but the assumption remains that the diagnosis can be validly applied in different social, cultural, and political contexts (Canino & Alegría, 2008). Accordingly, psychological autopsy studies assume mental disorder to be a universally applicable category whose essential nature is independent from, but whose superficial appearance may be influenced by, social factors. This allows mental disorder and social factors to be treated as being independently associated with suicide.

By contrast, the qualitative studies that are associated with critical suicidology do not take the domain of mental disorder to be universally applicable, but conceptualize it as being profoundly contextual. That is to say, whether or not it is appropriate to apply the label of mental disorder to a set of behaviors is dependent on the social, cultural, and political contexts in which the set of behaviors is expressed. For instance, consider a person exhibiting suicidal behavior associated with decreased interest in activity, loss of appetite, decreased sleep, and feelings of worthlessness. According to formal diagnostic manuals, this set of behaviors meets the diagnostic criteria for major depressive disorder, and so the person is judged to have a mental disorder by definition. However, according to critical suicidology, this way of interpreting such behaviors "is not timeless, universal, or natural", but is a product of a particular set of contingent cultural and historical developments (White, 2015). Labelling the set of behaviors as a mental disorder may be appropriate in some contexts, but other contexts may not permit such an interpretation. For example, it has been suggested that this set of behaviors in a person from a marginalized group may be better interpreted as a culturally mediated response to conditions that make unliveability thinkable rather than as a mental disorder (Cover, 2016). Therefore, critical suicidology suggests that the validity of a mental disorder label is not universal, but relative to the cultural context.

The above controversy over the domain of mental disorder is not confined to the disagreement between critical suicidology and mainstream suicidology, but is part of a much wider debate in the philosophy of psychiatry concerning the concept of mental disorder. The various positions are diverse, but two prominent positions are the view that mental disorder is a biological process located within the individual and the view that mental disorder is a normative category used to label behavior that is considered not to fit with society's expectations. A notable example of the former view is Jerome Wakefield's harmful dysfunction analysis, which suggests that a mental disorder must involve "harm or deprivation of benefit to the person" and "the inability of some internal mechanism to perform its natural function" (Wakefield, 1992, p. 384). While this analysis does concede that the concept of mental disorder has an evaluative component, it also claims that some internal biological dysfunction has to be present. This view is influential in modern psychiatry and is reflected in *DSM-5*, which defines mental disorder as "a syndrome characterized by clinically significant disturbance in an individual's cognition, emotion regulation, or behavior that reflects a dysfunction in the psychological, biological, or developmental processes underlying mental functioning" (American Psychiatric Association, 2013, p. 20). Accordingly, given that many studies in mainstream suicidology, notably psychological autopsy studies, employ the diagnostic framework of *DSM-5*, they carry with them the assumption that mental disorder is a state or process that is located within the individual and does not depend constitutively on the external social context.

With respect to the latter view that mental disorder is an inherently normative category, a recent example is the framework proposed by Patrick Bracken and Philip Thomas (2005), which they call post-psychiatry. Drawing on postmodernist theory, Bracken and Thomas criticize the dominant biomedical narrative that has prevailed in modern psychiatry and instead propose that an understanding of distress requires "an understanding of the context: social, cultural, temporal and bodily" (Bracken & Thomas, 2005, p. 133). This to some extent complements critical suicidology's conceptualization of mental disorder, inasmuch as it considers mental disorder to be a profoundly contextual and normative notion, rather than a universal and natural category. And so, while the concept of mental disorder is a longstanding debate in the philosophy of psychiatry, the disagreement between mainstream suicidology and critical suicidology presents an area where this philosophical debate has significant implications for research and practice.

In addition to the aforementioned disagreement between mainstream suicidology and critical suicidology, there are also some differences between how the various quantitative approaches in mainstream suicidology conceptualize the domain of mental disorder and its relations with other causal factors. As noted above, psychological autopsy studies often treat mental disorder and social factors as being independently associated with suicide, although some investigators concede that further studies should focus on how these factors may interact (Barracough, Bunch, Nelson, & Sainsbury, 1974, p. 371; Cavanagh, Carson, Sharpe, & Lawrie, 2003, p. 402). Furthermore, mental disorder is often suggested to be a proximate cause of suicide and is granted causal privilege over the social factors. Cavanagh and colleagues defend this causal privileging of mental disorder by claiming that "mental disorder ... is a relatively homogeneous concept in most cultural groups but psychosocial factors are less so" and "while the interaction between a subject and a mental disorder may be more predictable and lead to a specific outcome ... the interaction between a subject and social adversity may be less predictable" (Cavanagh et al., 2003, p. 401). Therefore, psychological autopsy studies consider mental disorder to be a robust cause of suicide and the influences of social factors to be less stable.

Epidemiological studies, by contrast, often take social factors to be causally privileged insofar as the interpersonal environment and the wider society are emphasized as the locations of effective variations. Where the incidence of mental disorder is explicitly measured, it is treated as an outcome measure which can vary across populations due to its being systematically influenced by variations in social factors across populations (Gunnell et al., 1995). Where the incidence of mental disorder is not explicitly measured, it is implicitly assumed that its influence averages out at the population level. Hence, epidemiological studies conceptualize mental disorder either as a correlate of suicide whose incidence is dependent on the rates of certain social factors in the study populations, or as a background condition that does not significantly confound the robust population level effects of these social factors.

While psychological autopsy studies and epidemiological studies tend to contrast the domain of mental disorder with external factors in the social environment, biological studies tend to focus exclusively on factors internal to the individual. At initial glance, it might appear that these biological studies are treating mental disorder as a causal product of the genetic or neurobiological state under investigation. However, the empirical data suggest that things are not so straightforward. First, biological studies often do not account for the contributions of social factors in the etiology of mental disorder. Second, particular kinds of mental disorder often do not correspond to particular kinds of genetic or neurobiological state. For example, it has been suggested that the association between genetic variation and variation in the expression of suicidal behavior may be partly independent of that between genetic variation and the variation in the expression of any particular mental disorder (Roy et al., 2000). It has also been suggested that the

association between decreased serotonin pathway activity and suicidality may extend across diagnostic categories and even to cases where no psychiatric diagnosis can be made (Mann, 2003). Therefore, biological studies treat the genetic or neurobiological state under investigation as the causally efficacious factor in producing suicidal behavior. This genetic or neurobiological state is often, though not always, associated with a diagnosable mental disorder. Accordingly, mental disorder is conceptualized as being contingently associated with suicide inasmuch as it may sometimes be associated with a genetic or neurobiological state which causally contributes to suicidal behavior.

4. Incommensurable approaches

4.1. Sources of incommensurability

In the previous section, I showed that the different approaches to studying suicide causation partition the causes of suicide in different ways and that these differences are further compounded by different ways of conceptualizing the domain of mental disorder. I now argue that these differences result in incommensurabilities between the different approaches. The first source of incommensurability pertains to the different ways in which the approaches represent the sets of factors that make up the causal space. As noted by Longino, these different representations incorporate “partially overlapping but differently measured sets of phenomena” (Longino, 2013, p. 132). That is to say, the sets of factors utilized and the contents of these sets differ from approach to approach, thus precluding straightforward empirical comparisons between the approaches.

For example, consider the ways in which different approaches might divide the causes of suicide into internal factors located in the individual and external factors located in the social environment. The space of external factors will be more extensive for an epidemiological approach than for a psychological autopsy approach. This is for two reasons. First, epidemiological studies often discern more specific kinds of interpersonal factor than psychological autopsy studies. For example, the study by Afifi and colleagues does not just measure childhood adversity, but distinguishes between more specific kinds of childhood adversity, namely physical abuse, sexual abuse, and exposure to domestic violence (Afifi et al., 2008). Second, an epidemiological approach can measure both external factors in the interpersonal environment and external factors at the level of the wider society that might vary across populations, while a psychological autopsy approach, insofar as it is restricted to a given study population, can only explicitly measure the former. Hence, a population level property that is classified as an external factor by an epidemiological approach, such as social fragmentation, may be overlooked entirely by a psychological autopsy approach. Given that the epidemiological approach's space of external factors includes population level properties while the psychological autopsy approach's space of external factors excludes them, the two approaches are likely to yield different estimates of the external influences on suicide causation.

Likewise, the space of internal factors will be more extensive for a biological approach than for an epidemiological approach, because the former can measure genetic and neurobiological variables while the latter takes these to be sufficiently uniform at the population level. Hence, an epidemiological approach that studies the associations between suicide rates and social factors across populations may overlook the possible influences of biological differences between the populations. As a result, biological and epidemiological approaches are likely to yield different estimates of the internal influences on suicide causation.

The second source of incommensurability pertains to the different ways in which the approaches conceptualize the domain of mental disorder. As detailed in the previous section, different approaches differ in their characterizations of mental disorder and how it relates to other factors. Depending on the discipline, mental disorder may be

conceptualized as a robust cause of suicide that is largely independent of the causal influences of social factors, an outcome measure alongside suicide whose incidence is dependent on population level social factors, a pattern of behavior that is clinically relevant but that may or may not be associated with biological contributors to suicide, or a normative label for certain culturally mediated forms of distress.

Given these varying conceptualizations, the different approaches are likely to draw different conclusions about suicide causation and prevention. For example, a psychological autopsy approach that considers mental disorder to be a robust and independent cause of suicide may suggest that intervening on mental disorder is the preferred strategy for reducing suicide risk, while also downplaying the roles of interventions on social factors (Cavanagh et al., 2003, pp. 401–402). By contrast, an epidemiological approach that takes the rates of suicide and mental disorder to be dependent on population level social factors might conclude that policies to reduce social deprivation and programs targeted at populations with high levels of social fragmentation are preferable suicide prevention strategies (Gunnell et al., 1995; Whitley et al., 1999). A biological approach that considers certain neurobiological states to be the causally efficacious factors in producing suicidal behavior might suggest that intervening on these states, rather than on mental disorder *per se*, might be effective at reducing suicide risk. Finally, a qualitative approach that considers it inappropriate in some contexts to interpret certain expressions of distress in terms of mental disorder might instead suggest that successful suicide prevention programs need to understand suicidal behaviors as culturally mediated acts shaped by the social and political contexts in which they occur.

The incommensurabilities detailed above have implications for how we should understand the research landscape of contemporary suicidology, two of which I shall discuss in the remainder of this paper. The first implication concerns the nature of the disagreement between mainstream suicidology and critical suicidology. The second implication concerns the need for explanatory pluralism in suicide research.

4.2. Mainstream suicidology and critical suicidology

As noted earlier, critical suicidology researchers argue that mainstream suicidology researchers, especially those associated with psychological autopsy studies, overstate the role of mental disorder in suicide causation. This disagreement is marked by conflicting political values, interests, and attitudes concerning how suicide should be framed as a problem. For example, critical suicidology researchers worry that much mainstream suicidology research, to the extent that it emphasizes the role of mental disorder, locates the cause of suicide within the individual. This could direct attention away from and weaken support for addressing the social and political conditions that enable and influence suicidal acts. Furthermore, some critical suicidology researchers also worry that mainstream suicidology's tendency to attribute suicide to mental disorder reflects and reinforces a hegemony that privileges a Western biomedical approach to distress, especially when Western psychiatric concepts are applied to people from communities who have suffered through Western colonialism, such as Aboriginal communities in Australia and Inuit communities in Canada (Cover, 2016; Kral, 2012). Occasionally, this disagreement over the significance of mental disorder in suicide causation is portrayed as having an empirical basis. Critical suicidology researchers sometimes dispute the validity of the psychological autopsy method and argue that the actual proportion of suicides that involve some form of mental disorder is much lower than the figure of ninety percent which is commonly reported by psychological autopsy studies (Hjelmeland et al., 2012; Marsh, 2015; White & Kral, 2014).

While the disagreement over the causal significance of mental disorder is clearly marked by conflicting political interests, my analysis suggests that these conflicting political interests are underpinned by differing philosophical assumptions about the domain of mental disorder. Complementing mainstream suicidology's view that suicide

should be framed predominantly as a health problem is its conceptualization of mental disorder as a natural category whose validity is largely independent of the social context. By contrast, critical suicidology's view that suicide should be framed as a social, cultural, and political problem is complemented by its conceptualization of mental disorder as a normative label whose validity is relative to the social context in which the suicidal behavior occurs. By rejecting mainstream suicidology's conceptualization of mental disorder as a universal category, critical suicidology is not only able to open up other contextualized ways of understanding distress, but also to call attention to the power relations that privilege mainstream suicidology's biomedical approach to framing suicide.

Furthermore, my analysis shows that the basis of the disagreement over the causal significance of mental disorder is not straightforwardly empirical, as is sometimes suggested in the literature, but is predominantly conceptual. Critical suicidology researchers and proponents of psychological autopsy studies reach different conclusions about the role of mental disorder in suicide causation because they presuppose radically different conceptualizations of the domain of mental disorder. This domain is more extensive for a mainstream psychological autopsy approach than for a critical suicidology approach, because the former takes mental disorder to be a category that is valid across all contexts in which the behavioral criteria are met, whereas the latter takes it to be a label whose validity depends on the social and cultural contexts in which the behaviors are expressed. Therefore, the disagreement between mainstream suicidology and critical suicidology regarding the role of mental disorder cannot be settled solely through further empirical discovery. Whatever figure is given for the proportion of suicides that involve some form of mental disorder, proponents of critical suicidology could argue that some of these cases ought to be understood as culturally mediated responses to the victims' circumstances rather than as cases of mental disorder.

4.3. Explanatory pluralism

As well as revealing the conceptual basis of the disagreement between critical suicidology and mainstream suicidology, the aforementioned incommensurabilities suggest that the prospect of unifying the different approaches in mainstream suicidology is limited. As noted above, the different ways of parsing the causal space result in representations of sets of factors that are "partially overlapping but differently measured" (Longino, 2013, p. 132). Because these different representations of the sets of factors do not square with one another with respect to their contents, they cannot be straightforwardly combined into a single coherent picture. This cannot be resolved simply by producing more empirical data, because any set of empirical data is relativized to a particular representation, and so cannot be used to evaluate other representations. As noted by Longino, "improving the methods of a given approach enables researchers to produce better knowledge within that particular framework but does not produce tools for cross-approach empirical evaluation" (Longino, 2013, p. 126). Therefore, the conceptual foundations assumed by the different approaches yield different classifications and suggest different causal stories, which push the approaches in irreconcilable directions.

This may seem to be a negative conclusion about the state of mainstream suicidology, but I argue that such irreconcilability is not necessarily undesirable. A positive conclusion is that the research landscape of mainstream suicidology requires explanatory pluralism. Each approach can offer partial knowledge of a limited aspect of suicide causation as characterized by its particular conceptual framework. However, the sum of the contributions of all the approaches is not a single comprehensive account that is unified by a single sort of explanation, but an assortment of partial accounts that involve different sorts of explanation.

The form of explanatory pluralism Longino (2013) proposes for behavioral science research is a radical form of ineliminative pluralism,

according to which we have different explanations for different aspects of a phenomenon, but we cannot express everything we know about this phenomenon under a single explanatory framework. By contrast, Sandra Mitchell (2009) endorses a more moderate form of integrative pluralism, whereby the different kinds of knowledge supplied by different approaches neither compete with nor are reducible to one another, but may nonetheless be integrated into a more complete account. Mitchell illustrates this with the example of major depressive disorder, the development of which involves diverse kinds of causal process at multiple levels, including genetic influences, neurobiological mechanisms, psychological processes, interpersonal relationships, and broader social circumstances. These different kinds of causal process cannot be straightforwardly reduced to one another, and so the development of major depressive disorder cannot be comprehensively explained at any single level of analysis. However, Mitchell suggests that the different levels are not isolated from one another, but that their respective causal processes interact with one another in complex ways. Accordingly, she argues that we should aim to integrate the models of these causal processes at their respective levels into a comprehensive account that represents the interactions between these different processes across the different levels. That is to say, the analysis of any causal factor "must be integrated with results from the study of others to determine the roles they play in generating the behavior of interest" (Mitchell, 2009, p. 110).

This raises the question of whether suicidology requires the radical pluralism of Longino (2013) or whether the more moderate pluralism of Mitchell (2009) is achievable. Prominent researchers from within mainstream suicidology have commented on the need for at least some sort of pluralism that acknowledges the roles of causal factors at multiple levels. For example, Rogers and Lester propose that "a fuller understanding of suicide should result from research that includes attention to social, psychological, psychiatric and physiological factors related to suicidal behavior" (Rogers & Lester, 2010, p. 142). Lester also emphasizes the need to acknowledge contributions of different approaches to understanding these causal factors, proposing that "what we need are good theories, especially good competing and incompatible theories, and methodologically sound empirical tests of these theories and competing hypotheses" (Lester, 2000, p. 159). While Lester does not explicitly state what form of pluralism is required, his proposal that we need theories that are competing suggests that he envisages a moderate form of pluralism that permits empirical evaluation across approaches. Marušič (2008) is more explicit in his support for integrative pluralism, arguing that suicidology not only needs to integrate the different kinds of knowledge supplied by different approaches to studying suicide, but also to align the interests of researchers, practitioners, and policymakers involved in suicide prevention.

From a metaphysical perspective, the integrative pluralism proposed by Mitchell (2009) is attractive, insofar as it is supposed to reflect how the multiple causal factors at various levels are all interacting with one another in a single world. Nonetheless, from an epistemological perspective, the analysis provided herein suggests that we can understand this complex state of affairs better by utilizing multiple partial accounts than by attempting to assemble a more general account that incorporates all of the factors. This is because the aforementioned incommensurabilities limit the degrees to which different representations of the causal factors can be integrated. As noted by Longino (2013, p. 145), integrative pluralism tends to assume that the definitions and measurements of the different kinds of factor are not affected by the varying methodological perspectives from which these kinds of factor are defined and measured. However, we have seen, to the contrary, that different approaches in suicidology conceptualize the sets of factors and the contents of these sets in different and often incongruent ways. Such incongruities place constraints on which conceptualizations can be combined. Any attempt to integrate these approaches, then, would require significant compromises over which conceptualizations are to be used and which are to be omitted. In turn, these omissions may result in

loss of information about the roles of certain factors in suicide causation. Therefore, while we may accept the metaphysical view that suicide causation involves diverse factors interacting across multiple levels within the same world, the epistemological task of studying suicide causation may warrant a more radical form of ineliminative pluralism.

Another challenge to integration concerns the dynamics between the different approaches to studying suicide causation. As well as being informed by theoretical and empirical considerations, the research landscape of contemporary suicidology is also shaped by political values and interests, which influence which issues are considered to be important. Some have commented that these political values and interests may occasion power relations which privilege certain approaches and relegate others. For example, Mark Goldblatt and colleagues note that epidemiological studies are overrepresented in the suicidology literature (Goldblatt et al., 2012), while Heidi Hjelmeland and Birthe Knizek (2017) suggest that there are vested interests in the field which result in quantitative studies being privileged over qualitative studies. As argued by Inkeri Koskinen and Uskali Mäki (2016), power asymmetries between research approaches may occasion conflicting incentives regarding integration. Proponents of less privileged approaches may be more incentivized to integrate than proponents of more privileged approaches, as the former may hope to become better recognized while the latter may wish to maintain their statuses.

The above suggests that the prospect of full integration in contemporary suicidology may be limited. However, this does not imply that proponents of different approaches cannot communicate productively with one another. Given that the various approaches aim to understand a common phenomenon, namely suicide, their successes should be seen as being mutually relevant. Longino (2013, p. 149) suggests that explanatory pluralism is complemented by a form of pragmatism. Although we may not be able to adjudicate between the claims of the different approaches purely on empirical grounds, we can evaluate them by appealing to superempirical values, such as explanatory interests and pragmatic aims. What particular approach is chosen depends on the interests and aims relevant to the particular context. For example, if the goal is to investigate the clinical risk factors for suicide in a given population that could potentially be amenable to therapeutic interventions, then a psychological autopsy approach that discerns particular psychiatric diagnoses may be appropriate. By contrast, if the goal is to ascertain whether changes in society at large could result in changes in suicide rates independently of individual level factors, an epidemiological approach that yields an explanation in terms of population level factors is appropriate. Therefore, there is no single approach that is superior to others *tout court*, but rather different approaches are valuable for different purposes.

Of course, the research landscape of contemporary suicidology will continue to be influenced by political values and interests. While the philosophical analysis I have offered does not claim to offer a resolution to these conflicting political interests, it nonetheless contributes to the debate by exposing the limit to which any strategy that privileges a single approach can be sustained. Accordingly, the analysis serves a cautionary purpose by warning that overinvesting in any single approach while neglecting others due to political and professional interests is an epistemologically untenable strategy. And so, the explanatory pluralism endorsed herein serves as a heuristic for utilizing the full range of approaches in order to achieve a richer understanding of suicide causation.

5. Conclusion

The research landscape of contemporary suicidology is complicated by the diverse variety of approaches to studying suicide causation. Herein, I have offered an analysis of part of this complex research landscape from a philosophy of science perspective, in order to clarify the respective contributions of and relations between these approaches. Drawing on recent work by Longino (2013), I have shown that the

different approaches to studying suicide causation represent the space of causal factors and conceptualize the domain of mental disorder in different ways, resulting in incommensurabilities between the approaches. I then presented two implications of my analysis. First, it suggests that the disagreement between mainstream suicidology and critical suicidology regarding the significance of mental disorder in suicide causation, while being marked by differing political values and interests, is also underpinned by differing philosophical assumptions about the nature of mental disorder. Second, it suggests that each approach in mainstream suicidology provides partial knowledge about a limited aspect of suicide causation, but the incongruent representations of the causal space preclude the different approaches from being integrated into a single coherent account. Instead, the research landscape of contemporary suicidology warrants a form of explanatory pluralism, whereby different sorts of approach are valuable in different contexts associated with different aims and interests.

Declaration of competing interest

As the author of this manuscript, I declare that I have no conflict of interest. I declare that the paper is original, has not already been published as a whole or in substantial part elsewhere, and is not currently under consideration by any other journal.

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Appendix A. Supplementary data

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