A philosophical analysis of the phenomenon of prosociality in Psychology

I INTRODUCTION

Why do people help one another? What seems like a simple question hides complexity spanning millions of years of human evolution (Feygina & Henry, 2015; Sapolsky, 2017). Prosociality is the term within the field of psychology and studies of animal behaviour more generally, which describes acts that benefit non-kin others (Jensen, 2016). This essay is concerned with how prosociality is conceived and studied as a psychological phenomenon in humans. Unlike in other animals, human prosociality is heavily influenced by the effects of socio-cultural factors (Bell et al., 2009; Feygina & Henry, 2015; Muthukrishna & Henrich, 2019). The erratic and complex phenomenon that results is different from the simple 'brute' facts of natural science (Searle, 1995) and thus warrants study as a social phenomenon (Epstein, 2018).

Originating as the opposite of antisocial, use of the term prosocial is relatively modern, first appearing in the Oxford English Dictionary in 1925 (OED, 2018), but not gaining regular use until the 1970's (*Ngram viewer*, 2022). The word has two roots, 'pro' meaning in favour of, and 'social'. The roots of the word social are found in Latin, "socialis" pertaining to friends, other groups of people or society as a whole (OED, 2021). Thus, at its simplest level prosociality may be defined as 'helping' behaviours (Dovidio et al., 2006) and recognised as a blanket term for altruism, cooperation or reciprocity. It is not a well-known word and is generally restricted to academic use. However, its importance as a concept is demonstrated both by dramatically increasing usage with over 1,500 new scientific articles published in 2020, primarily in psychology, psychiatry, and education (*Web of Science*, 2022). Research from a social science perspective is limited (Seu & Orgad, 2017), and the field largely assumes a positivist approach. This is the idea that whatever exists can be (only) verified through direct observation and the scientific method, and is contrasted with interpretivism which asserts that all experience is individual and subjective (Haverland & Yanow, 2012).

The first part of the essay analyses prosociality definitions and ontology in more depth. The key argument is that prosociality is too broad and imprecise a term for the positivist approaches which currently dominate the field. Secondly, the characteristic epistemologies of the field along with their strengths and limitations are examined. The important point in this section is that prosocial thoughts and actions are defined by human motivations which are themselves not directly observable. Thirdly, the implications of these two analyses are considered in terms of implications for research methodologies. Finally, the question of value neutrality is considered. This is a vital

question, as ideas of prosociality inherently carry a strong normative component. Prosocial behaviour is generally seen as good and antisocial behaviour as bad, and many researchers enter the field because they wish to increase the former or reduce the latter. This raises important considerations about objectivity. The essay will summarise key conclusions along with implications for future research.

II SOCIAL ONTOLOGY

At the heart of debates about 'what can be known' about an object of study are the contrasting perspectives of realism and idealism. Realists claim that an objective reality exists and is there to be discovered, whereas idealists take the view that all objects are ultimately a creation of the mind (della Porta & Keating, 2008). These philosophical positions, whether explicit or not, are bound to research cultures and have practical implications for how phenomena are studied. In contemporary reviews, there is a tendency to reject dogmatic adherence to one or the other extreme, but to utilise pluralist approaches guided by the objective of the research (della Porta & Keating, 2008). Research methodologies should thus match the nature of inquiry, rather than prescriptively following a particular ontological philosophy.

Questions about the ontology of prosociality are naturally bound to its definition. Clear definitions are the foundations of the study of any object (Caws, 1959; Klahr, 2013; van Mil & Henman, 2016). For example, there is a clear scientific consensus around the concept of sodium. It has an unambiguous definition. Similar substances to sodium exist, which are classified either as isotopes (ie. within the concept of sodium), or as other elements (e.g. lithium, potassium). There could be alternative ways to label and describe this system of elements, but researchers have settled on names and definitions which allow them to have effective discourse. The shared understanding of what sodium is and isn't allows comparison of research results from different sources and the incremental building of knowledge. Chemists do not become embroiled in debates about what sodium really is. This is important because these are the basic building blocks of a positivist approach and yet they are lacking in the psychological study of prosociality. Psychological concepts may be more difficult to define precisely as they are more reliant on language which is inherently less precise than mathematics (Delanty & Strydom, 2003). They also lack the obvious differentiation in physical properties (e.g. colour, smell, physical state, chemical properties) that allow the classification of elements. Crucially, the study of social objects implies that to some extent they are created by humans, not simply artefacts of nature (Epstein, 2018). Nevertheless, definitional

precision and common agreement are required to fulfil the positivist ideal, and so it is necessary to review current conceptions of prosociality in the literature.

What is termed prosocial behaviour has been widely observed in many animal species (Dugatkin, 2002) from those phylogenetically close to humans such as primates (de Waal & Suchak, 2010) or further away such as fish and birds (Massen, 2020; Raihani et al., 2012). It is studied by evolutionary biologists (Dugatkin, 1997), child developmentalists (Kelsey et al., 2018), social psychologists (Darley & Latané, 1968; Hortensius & de Gelder, 2018) and cognitive neuroscientists (Contreras-Huerta et al., 2020). Human prosociality is a complex phenomenon and yet any sample of the literature will reveal that whilst some research papers offer clear and thoughtful definitions, most are cursory and simplistic, often just a few words, and many others offer no definition at all. This observation is confirmed by a recent meta-analysis which showed that across four key journals in articles concerning prosociality or altruism 74% offered no definition of their object of study (Pfattheicher et al., 2021).

That prosociality is a broad and commensurately imprecise term seems clear. This lack of standards is conventional and ubiquitous in the behavioural sciences (Klahr, 2013), with notable exceptions of subjects grounded in psychometrics, such as intelligence and personality theory. The lack of precision and its aftereffects in terms of identifying and measuring prosociality has been noted in the field of evolutionary biology as well as in psychology (Jensen et al., 2014; Pfattheicher et al., 2021). Providing further evidence of the need to disaggregate concepts of prosociality, a recent brain imaging study suggested three separate neural components of prosocial behaviour; co-operation, equity and altruism (Rhoads et al., 2020). This neural evidence suggests that there may be distinct psychological processes and states underlying prosociality further bolstering the case for increased definitional precision. A critical differentiator is whether the individual performs the act with any expectation of reward and thus whether the act is truly altruistic (Pfattheicher et al., 2021; Swap, 1991). Generally, however the issue is not recognised or fully addressed in the literature and as a result prosociality is inconsistently operationalised. This inevitably undermines the ability to build progressive and cumulative research lines (Pfattheicher et al., 2021). It may be likened to attempting to hit a target with several bullseyes, when each shot must be taken using a different piece of equipment. A single target needs to be precisely defined to enable clarity of focus, and the equipment needs to be kept consistent to allow steady, incremental adjustments over time. This is the paradigm of positivist science.

III EPISTEMOLOGY

In judgments about what may be known, or what is considered true about a subject, two dichotomies can be considered; positivism-interpretivism and foundationalism-coherentism. Within positivism, are the concepts of critical realism and post-positivism. Critical realists assert that there is a real, material world but that our knowledge of it is socially conditioned, subject to both challenge and re-interpretation (della Porta & Keating, 2008). Post-positivists recognise that even if there is an objective reality, this does not mean that the world operates in a straightforward and deterministic way (Delanty & Strydom, 2003) and that no research or researcher can be truly objective (Krauss, 2005). Foundationalism-coherentism concerns the nature of building knowledge (Olsson, 2021). Foundationalists suppose that knowledge is built through experience of our senses and is built in layers, hence is reducible to smaller components. Coherentists on the other hand believe that knowledge is non-hierarchical and built through its fit to other pieces of knowledge. How do these different perspectives apply to the study of prosociality?

Within the field the vast majority of research is cast in a post-positivist frame, with very little idealist-interpretivist work in evidence (Seu & Orgad, 2017). With respect to critical realism, psychologists are well aware of the constructivist nature, and malleability, of human perception in areas that might be regarded as inviolable as visual perception and memory (González Martín-Moro et al., 2018; Loftus & Palmer, 1974; Purves et al., 2014) and are attuned to the delicacy and ephemerality of the constructs they are measuring. They do however, in the main, try to measure them (Borsboom et al., 2020). In fields where the term prosociality is used, research is primarily empirical rather than rational, that is to say it employs experimentation rather than introspection to further knowledge. When prosociality is related more to morality and ethics its methods become more philosophical, and more rationalist as a result. It is notable for example that moral psychology is regarded as a branch of philosophy, not of psychology (Tiberius, 2014).

A fundamental problem with the positivist philosophy in the study of prosociality in humans is that the underlying psychological and emotional states which contribute to (or detract from) prosocial behaviour are largely subjective. They have a physical manifestation in the form of neural activity and accompanying changes in the autonomic nervous system all of which can be measured (Mauss & Robinson, 2009), but these methods do not describe the subjective experience of any one individual. They have the property of ‘referential opacity’ (Searle, 1995) meaning that they are altered by mental states. A key concept that characterises human prosociality from that of other animals is that of intention, as Searle defines it, “the capacity of the mind to represent objects and states .. in the world other than itself” (Searle, 1995). The capacity for intention may be instrumental

in differentiating human prosociality from that of other animals. In short, humans may invoke reasoning, emotions and anticipate the consequences of a prosocial action in a way that other animals cannot. This is crucial because the motivational state of an actor necessarily differentiates sub-categories of prosociality such as altruism or cooperation (Paulus, 2018; Saulin et al., 2021). As a result, the disaggregation of prosociality into sub-categories calls for experimental methodologies which can differentiate them. This naturally suggests more idealist-interpretivist approaches. For example, in analysing how the public responds to communications from media and NGO's regarding humanitarian suffering, interpretivist accounts have revealed important phenomena such as compassion fatigue (Moeller, 2002) or how the selection of images in news media contributes to implicit understanding of a crisis (Chouliaraki, 2006). It is then perhaps a surprise that such accounts of human prosociality are thin on the ground (Seu & Orgad, 2017). Thus, positivist research on human prosociality must address the lack of direct observability and inherent subjectivity of motivational states. This is where an interpretivist approach may start to uncover meaning and develop understanding not possible from a purely positivist perspective.

An analysis of the foundationalist-coherentist dimension of prosocial research reveals further interesting dynamics. A helpful structure for this discussion is provided by examining studies of prosociality at three different levels; micro, macro and meso (Penner et al., 2005). Micro level research concerns the underlying mechanisms of prosociality of which there are many, operating at very different time-scales (Sapolsky, 2017); evolution, biology, neuro-science, gene-environment interactions, child development or personality traits. This research seems to be very clearly foundationalist in its nature - one truth leads to another in an unfolding explanation over several levels, with each rooted in the other in time or scale. The Meso level concerns individual level action either one-one or one-many. An example of a meso study would be the classic work of Darley and Latane on the bystander effect which showed that people are less willing to help when a crisis is witnessed by many people rather than as an individual (Darley & Latané, 1968). This is a typical example of studies that reify unusual or hidden idiosyncrasies of human behaviour that may be counter-intuitive or unexpected. Such research often invokes speculative, verbal explanations as to why such phenomena exist. As such they may be classified as coherentist in their nature in the sense that they are judged by their fit to other current theories rather than an underlying mechanism. This is evident from debates in research papers about how well a new theory fits with previous theories, an archetypal example being in the evolution of theories of working memory (Logie et al., 2020). This picture has changed substantially in the past twenty years with the greater understanding of brain function provided by neuroscience and brain imaging. Putative cognitive mechanisms that underpin behaviours can now be formally, mathematically constructed and tested, providing a much stronger

foundationalist approach sometimes referred to as computational neuroscience (Rescorla, 2015). For example, my research group structures its thinking based on Marr's three levels: the problem to be solved, the process (algorithm) that solves it and the cognitive implementation of that process (Marr, 1982). The higher-level functions are all rooted in neural design, and knowledge in this sphere has arguably drawn Meso level studies of prosociality back towards a more foundationalist perspective.

The Macro level study of prosociality concerns behaviour of individuals within large organisations. This focuses on such topics as volunteering and taking on additional responsibilities in the workplace (Penner et al., 2005) and is largely coherentist in its epistemology. There is little prosociality literature on how groups behave with groups, examples might be; how a football club fundraising for a local children's hospice, or the dynamics of intersectional solidarity (Ciccia & Roggeband, 2021; Einwohner et al., 2021). Such topics are more often seen as sociological, rather than psychological, but there are no hard boundaries (Brossard & Sallée, 2020; Thoits, 1995). In particular, the study of intra- and inter-group processes and the study of prosociality have been conducted independently (Snyder, 2010). Prosociality research has tended to focus on individuals whilst studies of groups have tended to focus on antisocial behaviours such as prejudice and competition. As a result the fields have rarely connected although this is now changing however with both in- and out-group prosociality being recognised as a staple aspect of group function (Snyder, 2010).

In sum, the unobservability of motivational states is a major problem for positivist approaches. Furthermore, the foundationalist tendency allied to positivism is dependent on robust empirical underpinnings for its explanatory power. Important elements of prosociality, such as that within groups, seem to have been neglected when these are not available.

IV METHODOLOGICAL IMPLICATIONS

The positivist-interpretivist polarity in research has softened over time through extensive debate into various more nuanced philosophies (della Porta & Keating, 2008). However, commentators differ in whether they believe that interpretivist qualitative research is really science or not. In their review, Haverland and Yanow (2012) state that "both [qualitative and quantitative] ways of knowing .. represent legitimate modes of doing science" whereas Cunliffe (2011), even whilst advocating the value of qualitative research is of the opinion it is "a craft, not a scientific endeavour". Even if one takes this view, it does not diminish the importance of an interpretivist

perspective in the scientific endeavour. In complex social systems, insight and understanding are key and accurate measurements is only helpful if the correct things are being measured. Furthermore, theory development is not conducted in a vacuum of cold, logical thought it is “a conversation between rigour and the imagination” (Abbott & Delano, 2004). In reality science progresses through a messy combination of inductive and deductive processes (Lawson, 2005; Rothchild, 2006; Stadler, 2004) in which imaginative interpretivism and rigorous positivism are complementary modes.

The preceding analysis has highlighted three key methodological themes. Firstly, the nature of prosociality research is primarily set in the positivist-realist tradition. However, prosociality is not only a behaviour, or it is certainly not a single behaviour and in humans the importance of motivational states in discriminating division into various sub-categories is critical. More interpretive studies could aid understanding and thus help to define and delineate sub-categories of prosociality as precursor to developing consistent and externally valid operationalisations of measurement.

Secondly, the majority of research is conducted at an individual level, missing important aspects of prosociality that are manifested in groups, especially at an inter-group level. Group behaviours are inherently more complex and harder to ground in foundationalist approaches relating behaviour to genetic, or biological mechanisms. This sociological-psychological interdisciplinary border may be fruitful for a more comprehensive understanding of prosociality.

Thirdly, measurements of prosociality need to be more rigorously applied across studies with researchers using consistent and validated instruments wherever possible and avoiding the invention of new ones unless justified. For example, charity donations are often used as a operationalised measurement of prosocial tendencies. Thus, we may observe one person who gives to charity, and one that does not and conclude that one is prosocial, but the other is not. However, there are payoffs from donating such as alleviation of guilt (Taute & McQuitty, 2004) and the ‘warm-glow’ (Andreoni, 1990). In contrast, a person who does not donate to charity may do so because they have carefully considered this action and may be sceptical of its efficacy. They may instead volunteer or campaign on an issue, giving time and emotional support at a higher resource cost to them than a financial donation. From this simple example it should be clear that measuring prosociality as a broad concept would require many operational measures to capture the comprehensive set of potential prosocial behaviours.

Some attempts have been made to develop psychometric scales of prosocial behaviour (Baumsteiger & Siegel, 2019; Luengo Kanacri et al., 2021) but these scales, whilst helpful, are limited by their lack of true external validity. Both scales derive their external validity on self- or other-reported behaviours rather than measurements of actual in-situ prosocial behaviours and so whilst

useful, they represent approximations to prosocial behaviours. That these measures will be imprecise and error-prone, especially when new, is to be expected. The history of physical measurements shows this for example with fundamental constants such as Earth's gravity or Plank's constant regularly revised to achieve higher degrees of increasing precision (Anderson et al., 2015; Steiner, 2013). Physicists accept that such revision and change is inevitable and should be embraced as a fundamental and positive aspect of the scientific process. Psychologists can do the same.

V VALUES

An analysis of prosociality naturally leads to consideration of normative judgements, that is to say what is right and good versus wrong and bad? Are all helping behaviours inherently good? What about helping people whose intentions are to harm others? In its introduction, the Oxford Handbook of Prosocial Behaviour comments "The question of *why* one person would act to benefit another has a long, distinguished, but not particularly definitive history in philosophers' attempt to understand the human condition" (Schroeder & Graziano, 2015). For some, judgements of right and wrong lie outside of the scientific domain, as they are not empirically determinable (Tiberius, 2014). David Hume's famous assertion that one "can't derive an ought from an is" (Black, 1964) is a commonly cited reason for rejection of any possible role of science in ethics. However, there is a strand of thought which claims a naturalistic or realist basis for morality with evolutionary and biological roots (Arnhart, 1995; Harris, 2010; Jeroncic, 2013; Strauss, 1953). There has been little academic work in this area. However modern neuroscientific studies show that moral behaviour can be unpacked in terms of measurable cognitive functions (Churchland, 2011; Filley et al., 2020). This view of previously hidden psychological states could potentially be support normative judgements of prosocial behaviour based on motivation. Perhaps this deeper understanding of motivational states might reinvigorate the 'science of ethics' in the future.

Nevertheless, given such strong overlaps with morality and ethics, the study of prosociality is prone to bias by researcher motivations and this needs to be recognised when designing research. For example, the scientific community is unrepresentative of the general population. In the US figures show that the ratio of popular support for Republican versus Democrat parties is 0.66:1, amongst scientists it is 0.11:1 (Rosenberg, 2009) and whereas 83% of the public state they believe in God, only 33% of scientists agree (Rosenberg, 2009). Furthermore, with regard to prosociality many researchers are motivated by a desire to make a positive impact on the world, e.g. by influencing public policy such as through the now independent "Nudge Unit" (*The Behavioural Insights Team*, n.d.). In such political domains researchers' personal positions inevitably influence their judgements.

As a result, true objectivity is something of a chimera, exemplified in debates over the value neutrality of Stern report on climate change (Montuschi, 2014). Weber's view was that even the act of choosing an object of study is a value-laden choice (Hammersley, 2017). This case is particularly relevant for prosociality compared to more neutral psychological objects such as language or visual perception. Despite this Weber suggests that researchers should still strive for objectivity (Hammersley, 2017). The concept of a 'researcher identity memo' (Maxwell, 2012) to identify motivations and prior experiences that have brought them to the topic. If completed earnestly, this document has the two-fold benefit of transparency to other researchers, but perhaps more importantly allows a researcher a space to reflect on these experiences and identify possible biases and blind-spots (Cox, 2012).

VI CONCLUSION

There are valuable insights to be drawn from this philosophical analysis. Firstly, the mainly positivist approach in the behavioural sciences is hampered by the overuse and under-definition of the term prosociality. More precise sub-categories of prosociality should be used by default, intentionally restricting use of the prosociality purely to a broad descriptive. These sub-types of prosociality might be differentiated on a number of axes already established in the literature e.g. group vs individual, planned v impulsive, high vs low involvement, high vs low commitment (Schroeder & Graziano, 2015). Behaviours themselves can be categorised as helping, altruism, volunteering or co-operation depending on the context and specifics of the action. Together these taxonomies will aid the positivist endeavour of categorising and measuring prosociality in a precise and consistent way.

Secondly, recognising that human prosociality is socio-culturally constructed in a way that animal prosociality is not, there is a gap in use of interpretivist research on which may be useful in developing a fuller understanding of its dynamics. Such insights may serve theory development (Alvesson & Karreman, 2011; Eisenhardt, 1989), which in the absence of alternatives can default to folk psychology or a researcher's inevitable biases (Muthukrishna & Henrich, 2019). The cultural pull towards foundationalist epistemology has been discussed in the analysis of the three different levels (micro, meso, macro) of prosocial behaviour. It is apparent from this that there is an opportunity for more research on how prosociality is manifested in group contexts.

Finally, the role of values is emphasised as a particularly important factor with regard to the study of prosociality given its natural overlap with morality and ethical behaviour. In sum, this

structural analysis of the social phenomenon of human prosociality has revealed a range of areas which could improve the quality and fullness of its study in the future.

(3,975 words)

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