Who does neuroethics scholarship address, and what does it recommend? A content analysis of neuroethics abstracts



Background

Many neuroethics abstracts and papers conclude with a set of normative recommendations. While these recommendations can be a helpful way of summarizing a proposal for a future direction, scholars have recently argued that ethics scholarship has devoted insufficient attention to considerations of audience and real-world applications (Mertz 2019; Pratt 2017). To better understand what types of neuroethics scholarship may be appropriate for practical application, a first step is to examine a basic, yet unstudied question: who is the target audience of neuroethics scholarship, and what kinds of recommendations does this scholarship make?

Objective

The goal of our study is to conduct a qualitative analysis of the types of recommendations and audiences addressed across a subset of neuroethics scholarship.

Methods

Rather than defining *a priori* what constitutes neuroethics scholarship, we chose to analyze scholarship that authors had self-identified as being neuroethics-related: abstracts submitted to, and presented at, International Neuroethics Society (INS) annual meetings. While INS abstracts are not publicly available, a subset (~25/year) of top abstracts are published annually in AJOB Neuroscience.

Our sample therefore consisted of all INS abstracts (N=269) published as top abstracts in AJOB Neuroscience in the last decade (2011-2020). Two coders reviewed the abstracts and coded for methods utilized, type of recommendation made in the conclusion (if any), and target audience. Sample characteristics were generated through descriptive statistics and simple inferential statistics were used to explore differences between subgroups.

Coding disagreements resolved were through discussion. Intercoder agreement was 94.7%. Representativeness of the top AJOB Neuroscience abstracts relative to all INS abstracts was checked by comparing the distribution of codes for 2020 selected AJOB Neuroscience abstracts (n=30) to that of all publicly available 2020 INS accepted abstracts (n=84) across all four coding categories; no significant differences were found.

Methods Uti Conceptual Empirical Legal Analysis **Experimental**

Other

Type of Recommendatior Conceptual Practical Policy No Recommendation

*Percentages add up to greater than 100, as multiple codes were used when more than one target audience was identified.

Rebekah J. Choi, MPH¹; Nina (Yichen) Wei¹; Laura Specker Sullivan, PhD², Anna Wexler, PhD¹ ¹Department of Medical Ethics & Health Policy, University of Pennsylvania; ² Department of Philosophy, Fordham University

Results

Table 2. Target audiences of abstracts. Audiences were coded as "explicit" if named and "implicit" if implied.

3 (1.1)

			Type of	N=269 (%)*	Definition	
ized	N=269 (%)		Audience			
			Scholars		Academics (e.g.,	
			Explicit	33 (12.3)	neuroscientists, ethicists legal	
	167 (62.1)		Implicit	193 (71.7)	scholars)	
	68 (25 3)		Regulators			
	00 (23.3)		Explicit	18 (6.7)	Lawmakers, cour	
	19 (7.1)		Implicit	7 (2.6)	5000 millione 450	
			Healthcare Provi	ders	Physicians, nurs	
	13 (4.8)		Explicit	18 (6.7)	and other health	
			Implicit	3 (1.1)	providers	
	2 (0.7)		Industry		Device and softv	
			Explicit	7 (2.6)	manufacturers;	

Implicit

Table 1. Methods utilized across abstracts.

Table 3. Types of recommendations provided by abstracts.

N=269 (%)	Definition	Example				
183 (68.0)	Changes to normative framework or system of thinking; ways to improve or add to an existing	"We offer a theoretically- grounded approach to understanding how these dimensions are interwoven"	Tabl p		4. Audiences ad actical & policy a Type of Audience	ddres abstra n= (9
32 (11.9)	Actionable next steps pertaining to clinical or research practices	"I suggest modifications to current neuroimaging practices to begin addressing these problems"			None specified (i.e., implicit audience) Regulators	32 (8 (2
21 (7.8)	Actionable next steps pertaining to policies at the local, institutional, state, or federal levels	"This project sets out a proposal for new FDA regulations that better fit the particular nuances of cognitive enhancement technologies"			Scholars Healthcare providers Industry	7 (2 5 (3 (
33 (12.3)	Does not provide recommendation	General reporting of results without implications				



Discussion



es, ncare

ware

pharmaceutical

companies

ssed by acts.

=53 6)*

(61.5)

15.4)

13.5)

(9.6)

(5.8)

The majority of abstracts in our sample utilized conceptual methods (62.1%), provided conceptual recommendations (68%), and implicitly addressed other scholars (71.7%). Roughly 82% of all abstracts did not address a specific target audience (i.e., were coded as "implicit" on Table 2).

Only a subset of neuroethics abstracts provided practical or policy recommendations (n=53, 19.7%). Of those, the majority (n=32, 61.5%) did not explicitly address a target audience. The remainder addressed policymakers, scholars, healthcare providers, and industry. Of the abstracts utilizing legal methods, 89.5% (n=17) made practical or policy recommendations.

Our findings in neuroethics parallel those from Walker and Morrissey (2017), whose analysis of scholarship on the ethical, legal, and social, implications (ELSIs) of genetics found that only a small percentage of publications (10%) offered policy recommendations. Our work raises similar questions as to how neuroethics should inform practical and policy applications.

Limitations of our study include the use of conference abstracts rather than published papers, and the utilization of selected INS abstracts published in AJOB Neuroscience due to the lack of availability of all INS abstracts. However, representativeness was checked for the one year it was possible to do so (2020) and a particular strength of our sample is that it encompasses scholarship that authors themselves have identified as being related to neuroethics.

In summary, most neuroethics literature is conceptual in nature and does not offer practical recommendations. Among the subset with practical recommendations, a clarification of target audience may help increase impact.

References

Mertz, M., Fischer, T., & Salloch, S. (2019). The value of bioethical research: A qualitative literature analysis of researchers' statements. PloS One, 14(7), e0220438.

Pratt, B., Paul, A., Hyder, A. A., & Ali, J. (2017). Ethics of health policy and systems research: a scoping review of the literature. *Health Policy and Planning*, 32(6), 890–910.

Walker, R. L., & Morrissey, C. (2012). Charting ELSI's future course: lessons from the recent past. Genetics in Medicine, 14(2), 259–267

Rebekah Choi Nina (Yichen) Wei Laura Specker Sullivan Anna Wexler

Contact

Rebekah.Choi@pennmedicine.upenn.edu ninawei@sas.upenn.edu lspeckersullivan@fordham.edu awex@pennmedicine.upenn.edu

This project was supported by the Office of the Director, NIH, under Award Number DP50D026420.