

Motivated Reasoning and Disabled People

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Abstract

Motivated reasoning (MR) refers to the influence wishes, desires, and preferences have on individuals' cognitive processes including assessing, constructing, and evaluating. Research on MR indicates that individuals have the tendency to accept favorable information and be dismissive or critical of threatening information. Such tendency influences the choice of newspapers and other media sources they consume and the content within these sources they read. MR is found to impact partisan affiliations and to lead to attitude polarization inequality, enhanced discrimination and injustice. Certain discussions linked to disabled people lend themselves to MR such as the origin of disablement (the body, the environment, or both) and whether the characteristic that makes one being classified as a disabled person is a deviation or a variation (see discussions around Deaf culture and neurodiversity). MR enables a polarization between the different views evident. Nearly all aspects and impacts of MR influence the living situation of disabled people. As such the purpose of our study was to investigate how the academic literature around MR engaged with disabled people. Using SCOPUS and the 70 databases of EBSCO ALL we found only two academic articles that directly covered MR in relation to disabled people. We use the issue of evidence generation in academic literature and newspapers as one example for discussing the impact of MR on disabled people. We suggest some actions that should be taken in relation to MR and disabled people.

Keywords: motivated reasoning; disabled people; people with disabilities; media; academic literature; evidence generation.

Motivated Reasoning

The notion that intentions and motives influence reasoning has had a long history in the field of psychology (Kunda 1990). Various theories have been put forward on how motives affect perceptions, attributions and attitudes (Festinger 1957, Heider 1958, Festinger and Carlsmith 1959, Kunda 1990). In the 1990s, a consensus emerged with the understanding that motivation can and does affect judgment, and research shifted its efforts toward understanding this phenomenon of motivated reasoning (MR) (Kunda and Sinclair 1999). Recently, public policy

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scholars have been drawn to the concept of MR to help explain protracted policy debates in areas including gun control, climate change and more (Kahan and Braman 2006).

MR refers to "the unconscious tendency of individuals to process information in a manner that suits some end or goal extrinsic to the formation of accurate beliefs" (Kahan 2011, p. 19). More specifically, it can be defined as the unnoticed tendency to avoid information that challenges existing beliefs and to readily accept information that conforms with prior beliefs (Lenker 2016, Taber and Lodge 2006, Caddick 2016). MR is identified as one factor that can prevent people from processing information objectively (Lenker 2016). Whenever individuals are subjected to new information related to a prior belief, MR is a possible agent influencing the maintenance of said belief (Caddick 2016). A fundamental part of MR is that wants and desires have the potential to affect individuals' decision-making processes (Kopko et al. 2011, Bruner and Goodman 1947, Bruner and Minturn 1955) consisting of two parts: reasoning toward one conclusion over another and motivations meaning preferring one conclusion after another (Kopko et al. 2011, Kunda 1990).

MR is displayed in various forms. Individuals can be driven by the desire to arrive at an accurate conclusion where justification by others may be needed (Leeper and Slothuus 2014) which leads a person to be more careful and thoughtful in their reasoning (Strickland et al. 2011) as they actively consider relevant information to reach what is perceived as a correct or best conclusion (Leeper and Slothuus 2014, Taber and Lodge 2006). Individuals can also be driven by directional goals which happens when they desire to arrive at a particular conclusion (Sinatra et al. 2014). As such, individuals tend to seek out evidence that aligns with their pre-existing beliefs (Kahne and Bowyer 2016). Kahne and Bowyer (2016) argue that although directional MR may not always be problematic at the individual level, that it has problematic consequences for democratic engagement. Leeper & Slothuus (2014) explain that directional MR is not a motivation to defend prior beliefs, attitudes, identities and behaviors, it only prioritizes the defense of some of these features at the expense of other psychological objects via either effortful or low effort information processing (Flynn et al. 2016, Taber and Lodge 2006).

Partisan MR involves directional goals designed to protect one's partisan identification. Partisan identity plays an important role in public opinion formation and directional goals are likely to be formed out of loyalty and the desire to stay consistent with one's own party (Dancey and Goren 2010, Iyengar et al. 2012). It motivates citizens to selectively process information that upholds their priority beliefs and partisan attachments (Rudolph 2006, Taber and Lodge 2006). The processing of political information is influenced by partisan goals (Strickland et al. 2011) and can lead to biased judgments (Rudolph 2006). Ideological biases are difficult to overcome especially as political elite tend to associate the debate with partisanship rather than attempt to understand the underlying issues (Suhay et al. 2015).



MR gives rise to consequences of concern for how individuals use information to learn and inform themselves as citizens (Lenker 2016). Much evidence on MR suggests that having a stake in the outcome increases the influence of motivations (Kopko et al. 2011). People label others as engaging in MR much more readily than they identify themselves as engaging in MR (Kahan 2011). MR is "greater among those carrying the burden of the decision" (Njelesani et al. 2014, p. S70). It is acknowledged in the 2015 World Development report that development professionals are influenced by various forms of cognitive biases including MR (World Bank 2015). Research suggests that MR is especially prevalent in political issues where ideologies and other types of affiliations influence attitudes towards a certain problem or policy (Bolsen et al. 2014, Leeper and Slothuus 2014, Redlawsk 2002, Heeren 2016). However, citizens also engage in MR beyond political issues, whereby they discredit information that differs from their pre-existing attitudes (Kuru et al. 2017). Identity-protective cognition is one specific form of MR (van der Linden 2016). People use stereotypes to strengthen their MR and MR is used to strengthen stereotypes (Kunda and Sinclair 1999). Heeren (2016) warns of the effects of MR as it can influence policy and behavior by bluring the boundaries between the way an individual perceives an issue with the way that same individual perceives potential solutions to that issue. MR is not just an individual issue but impacts how social groups relate (Schaller 1992, Klaczynski and Robinson 2000). MR impacts evidence-based decision making, evidence-informed policy making (Baekgaard et al. 2017) and risk analysis (Montibeller and Von Winterfeldt 2015). Given the characteristic, dynamic and consequence of MR, it seems reasonable to conclude that disabled people are influenced and impacted by MR. In the next section we outline in more detail why there is a need to investigate MR in relation to disabled people (section 2.1) followed by empirical data on how MR is covered in relation to disabled people in the academic literature (section 2.2).

Motivated reasoning and the impact on disabled people

Why investigate MR and disabled people

Many issues related to disabled people are discussed within public, academic and policy discourses, whereby MR behavior could influence the outcome of all these discussions. To just mention three issues; one issue is linked to the classification of the body of the disabled person (medical or negative or neutral or positive) (Koch 2002, Koch 2004, Reindal 2000, Reindal 2010, Harris 2000a, Harris 2001, Malhotra and Rowe 2013) (see also discussions around Deaf culture (Tucker 1998, Sparrow 2005, Wolbring 2011) and neurodiversity (Trivedi 2005, Kapp 2011, Runswick-Cole 2014)).

The second issue is linked to whether one perceives the disablement to originate a) within the person, b) the environment, or c) in both. Often the two aspects of characterizing the body and the origination of the disablement are discussed together.

The third issue is linked to discourses around what abilities are expected from a person. Ability Studies is a field that focuses explicitly on the social dynamics of ability expectations and the disabling and enabling consequences linked to it (Wolbring and Yumakulov 2015, Wolbring



2008b, Wolbring 2008a). Disabled people coined the term ableism in the 1970's to highlight the disabling impact of privileging certain abilities of the body and labelling people that do not have these abilities as deficient (Wolbring 2008b, Wolbring 2008a, Wolbring 2014, Goodley 2014, Campbell 2009).

MR behavior in relation to the perception of disabled people, the nature of disablement and what abilities are expected of people impacts all aspects of the lives of disabled people including how people relate to disabled people, how the media portray disabled people, the development of policies, the generation of evidence and the involvement of disabled people in decision making.

To give two examples; risk analysis, communication and perception is one area influenced by MR (Kitzinger and Reilly 1997, Vraga E et al. 2018) whereby risk discourses impact disabled people (Wolbring 2017a). Labelling having a disabled child within risk language is a common occurrence (Marteau and Drake 1995, Wolbring 2017a, Wolbring and Diep 2016). For example, the phrase "risk of having a child with Down Syndrome" is often used to indicate a 'negative reality' of giving birth at an older age whereby risk indicates something to be avoided (Wolbring 2017a). However, risk is not a fact but a judgment. The more proper term would be probability of having a child with Down Syndrome is increasing with having a child at an older age a phrase much less used (Wolbring 2017a).

The World development report 2015: Mind, society, and behavior (World Bank 2015) engaged with the topic of "automatic thinking that can compromise the effectiveness of development professionals" (World Bank 2015, p. 181). It is argued that "development professionals are susceptible to a host of cognitive biases" (World Bank 2015, p. 181). whereby MR is identified as one of four challenges faced by development organizations in their efforts to improve "decision-making procedures and policy processes" (World Bank 2015, p. 181) suggesting an impact of MR on disabled people as development policies are important for disabled people

Investigating MR as it relates to disabled people is not only of use to disabled people but also society. The issue of ability expectation and ableism evident in so many discourses linked to disabled people and one area influenced by MR is also a dynamic influencing other groups. Ability expectations are used to justify sexism and racism for example (Wolbring 2008b, Wolbring 2008a) and to justify how humans deal with animals and nature (Wolbring 2014).

MR and disabled people: the data

To answer the question whether academic literature engaged with MR in relation to disabled people, we searched without time restriction the two academic databases EBSCO Host - an umbrella database that consists of over 70 other databases and Scopus which also includes all Medline articles. Together, these two databases cover a wide range of topics from areas of relevance such as life science, physical science, medicine, science, technology, humanities and social science. The inclusion criteria beyond the presence of certain terms as outlined below are that the articles had to be in English and had to be peer reviewed. We did not find even one article



that mentioned "motivated reasoning" in the abstract of the article that also mentioned the terms "disabled people" or "people with disabilities", the two main terms used to describe the social group of disabled people (Barnes 1999, Miles and Singal 2010, Chataika et al. 2012) in the abstract, title, keyword or full text. Furthermore, we found only 18 articles (duplicates between databases excluded) when we looked for articles that contain "motivated reasoning" in the full text and "disabled people" or "people with disabilities" in the full text. We also used some other terms linked to disabled people such as "deaf people", "visually impaired", "physically disabled", "with impair*", "impaired people" in our searches which generated no relevant results. One could use many other terms that might be used to depict subgroups of disabled people, however, our finding is a strong indicator that MR in relation to disabled people is an under-researched area of academic inquiry and that there is room for improvement in investigating the dynamic and impact of MR in relation to disabled people.

Terms related to disabled people	"motivated reasoning" in the abstract 1086=100%; various terms related to disabled people in the abstract	"motivated reasoning" abstract 1086=100%; various terms related to disabled people in the full text	"motivated reasoning" full text 8715=100%; various terms related to disabled people in the abstract	"motivated reasoning" full text 8715=100%; various terms related to disabled people in full text
+"disabled people"	0	0	0	12
+"people with disabilities"	0	0	1	13
"with disab*"	0	0	0	23 (no new ones that are relevant)
"with impairm*	1	1	0	1 (not relevant)
"impaired people"	0	0	0	0
"deaf people"	0	0	0	2 (none relevant)
"visually impaired"	0	1	0	0
"physically disabled"	0	0	0	1(not relevant)

Table 1: Coverage of disabled	ni elgoeg	articles covering	"motivated	reasoning"
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When we performed a qualitative content analysis of the 18 articles covering disabled people (derived from the 26 positive hits with terms "disabled people" and "people with disabilities" after elimination of 8 duplicates), we found that the situation of engaging with disabled people within the frame of MR is even worse than the numbers suggest. Not one of the 18 articles mentions the words "motivated" AND "reasoning" AND disab* (root including various version of the word) within 50 words of each other, strongly indicating that the articles do not substantially engage with



disabled people in relation to MR in a direct way, an indication that was corroborated by reading the articles. Indeed 11 articles mention one or the other term in the reference list. Two mention both terms but do not link them together content wise or do not engage with one or the other besides using the terms. For one article, one could assume that some linkage is supposed to be made by the reader, but it is not explicit (Haslam 2006). Haslam (2006) argues that dehumanization is a motivated phenomenon to make the actor engaged in dehumanizing actions to feel at ease with their action and Haslam (2006) gave developmentally disabled people as an example of a group that experiences dehumanization. As such the reader can make the connection that the actor that dehumanizes developmentally disabled people uses MR to not feel bad about their action toward developmental disabled people.

The article *Dilemmas, diagnosis and de-stigmatization: Parental perspectives on the diagnosis of autism spectrum* does not use the term "motivated reasoning" in the text (its used in the reference list) but the related term of cognitive dissonance, which the authors define "as the uncomfortable feeling caused by holding two contradictory views simultaneously" (Russell and Norwich 2012, p. 239). They argue that

the theory of cognitive dissonance proposes that people will act to reduce dissonance by changing their attitudes, beliefs, and behaviours, or by justifying or rationalizing them. For parents of children who receive a diagnosis the dissonance motivation can be encapsulated as concern that the formal clinical ASD diagnosis makes a child 'autistic' (where 'autistic' has a negative connotation). This according to Kunda (1990) makes a person search for 'cognitions' where this cannot be true; hence the development of the increasingly powerful 'different and special' discourse. For the parents adopting this discourse, 'autistic' is no longer a pejorative term, and parents set about recruiting others to this viewpoint (Russell and Norwich 2012, p. 239).

And one article implies MR when it states "people who expected to interact with members of a stigmatized group (and therefore were motivated to see them favorably) expressed more positive stereotypes of this group, as compared with people who did not expect such an interaction" (Baumeister et al. 1998, p. 1088).

That leaves only two articles that really engaged with MR in relation to disabled people. One gave hedonistic damages as an example of MR (Bagenstos and Schlanger 2007). It outlines the notion that lawyers often ask for hedonic damages based on the reasoning that the life of the recently 'disabled' person is a damaged one. It also argues that juries frequently award these damages to newly 'disabled' persons based on the view that 'disability' limits one's enjoyment of life in sync with a general societal understanding of disability as a negative life changer despite evidence to the opposite (Bagenstos and Schlanger 2007). With other words, people use MR from the position of believing in the medical model of disability.



Banja, in the second article on the other hand makes an argument that people adhering to the social model of disability engage in MR against the medical model (Banja 2010).

The last two articles (Bagenstos and Schlanger 2007, Banja 2010) are examples of how MR is linked to discussions around the imagery of disabled people and the origin of disablement.

In the next section we use the example of evidence generation in relation to academic articles and the media to discuss the impact of MR on disabled people (section 3) which is followed by a section on what to do with MR in relation to disabled people (section 4) and the conclusion (section 5).

Motivational reasoning and evidence: Academic literature and the media

Various relationships exist between policy development and the generation of evidence through research (Young et al. 2002). Policies can be seen to be informed by evidence generated through research (Bowen and Zwi 2005, Head 2008, Young et al. 2002) and policy issues can also shape research agendas (Young et al. 2002). There are various models of how policy and the generation of evidence through research relate (Young et al. 2002). There are problems with processes that decide what evidence is generated by whom (Duke and Thom 2014, Marmot 2004) and policy analytical capacity of governmental and nongovernmental actors (Howlett 2009).

Independent of the model of relationship between policy and research, disabled people are highly impacted by policies and by the choice of evidence generated to inform policies (Wolbring et al. 2016). There are three main areas one can generate evidence on about disabled people; one focusing on the body of the disabled person, one focusing on the social situation of disabled people as individuals and as a group, and a third on how ability expectations play themselves out around disabled people. It is thematized in the literature that not enough evidence around the social situation of disabled people is generated (Berghs et al. 2016, World Health Organization 2011, United Nations 2015).

Media including newspapers influence the shaping of policy (Shanahan et al. 2008, Babu et al. 2017, Dekker and Scholten 2017, Weishaar et al. 2016, Fawzi 2017) through the evidence provided in their reporting. Some note that the role of media increased in recent times (Roco 2008). Media should provide content that enables and facilitates citizen participation in debates of societal issues (Picard and Pickard 2017). However, the problematic coverage of disabled people in the media such as newspapers is well described (Wolbring 2016, Barnes 1992, Clogston 1994, Sobsey 1995, Goggin and Newell 2003, Haller et al. 2006, Panesar and Wolbring 2014, Billawala and Wolbring 2014, Baker 2007). It is evident in the fact that disabled people as a group are often simply not mentioned in the reporting of many general social issues such as food insecurity (Wolbring and Mackay 2014) although many disabled people experience these general social issues. It is also evident in the fact that a negative or medical categorization of



disabled people is prevalent in the reporting (Billawala and Wolbring 2014) but also that what one might call a positive categorization (Ellemers and Barreto 2006) is used in problematic ways (see literature questioning the supercrip imagery which is the image highlighting how much disabled people can achieve (Harnett 2000, Myers Hardin and Hardin 2004, Kama 2004, Booher 2010, Wolbring and Litke 2012)).

At the same time that evidence is seen to be of importance to shape policy and other discourses, MR influences what evidence, what information is acted upon or ignored (Lenker 2016, Taber and Lodge 2006, Caddick 2016, Kahan 2011, Kahne and Bowyer 2016, Kuru et al. 2017). MR is "greater among those carrying the burden of the decision" (Njelesani et al. 2014, p. S70) and clinicians, judges (Minkoff and Marshall 2016) and academics also engage in MR (Hoffman et al. 2015). Some state that MR is one reason for the disconnect between scholars and the public (Barteau et al. 2015). MR impacts evidence-based decision making and evidence-informed policy making (Baekgaard et al. 2017) and various studies concluded that MR is impacting media (Frensley and Michaud 2006, Levendusky 2013, Meirick 2013, Croston and Pedersen 2013, Conroy-Krutz and Moehler 2015, Hart et al. 2015, Kahne and Bowyer 2017).

In the remainder of this section, we will first add to the existing evidence on how disabled people are covered in newspapers and in the academic literature in relation to various topics. Then, we will discuss the new findings and already existing literature on media and academic literature coverage of disabled people through the lens of MR and its impact on disabled people.

The new evidence

To generate the new evidence, we chose to look at how the Canadian newsstream, a database of 300 Canadian English language newspapers and the academic databases (EBSCO-Host (an umbrella database that includes over 70 other databases one can access by clicking on "choose databases" within for example the database Academic Search Complete (EBSCO)) and Scopus (which also includes 100% of the articles of the Medline database) cover various social groups including disabled people in articles covering "Nuclear energy" or "nuclear waste", "fracking", "vaccine use" "cancer screening" and "newborn screening" in general and in conjunction with the term "risk". The term "risk" was used as a subcategory as it indicates a certain focus on danger and could be used in various ways such as medical risk, the risk of generating a disability (in the medical, deficiency sense) or social risk disabled people might encounter. All areas covered are seen to need evidence-based policies. We used nuclear energy/nuclear waste and fracking as examples of two topics that one could see disabled people being covered under the angle of disaster preparedness and disaster risk reduction (United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) 2012, UNESCAP et al. 2014, United Nations 2015, United Nations General Assembly 2015). Vaccine, we used to highlight the instrumentalization of the imagery of disabled people in a discourse (scaring people that something leads to a disability as in impairment). We selected cancer as an example because disabled people are reported to have an increased risk of cancer and encounter barriers to cancer screening (DisAbled Women's Network (DAWN) Canada 2016). As to newborn screening one



can make a case that what we screen for and how we justify the screening impacts the narrative around disabled people and what actions are seen as warranted (see for example discussions around the Groningen protocol (Verhagen and Sauer 2005, Jotkowitz and Glick 2006, Chervenak et al. 2006)). Finally, given discussions and reported advancements around gene editing, which includes somatic and germline gene editing (Wolbring 2015b, Wolbring 2015a, Wolbring and Diep 2016), how we discuss newborn screening will have an impact on these discussions and on the flip side advancements in somatic and germline gene editing will impact discussions around newborn screening.

We searched the academic databases and the Canadian newsstream on (July 25, 2017, data not shown) and again October 16, 2017 (terms listed in Table 2 and 3), and October 25, 2017 (for the additional term "famil*", (Table 2 and 3). We searched the databases with no time restrictions to the publication of the articles, meaning the search was only limited by the timeframes the databases use. The two academic databases were chosen because together they contain journals that cover a wide range of topics from areas of relevance to answering the research question such as life science, physical science, medicine, science, technology, humanities and social science. We limited our searches in the academic articles to the presence of terms in the abstract of articles and in the case of the EBSCO database to the presence of the terms in the full text of the articles.

Table 2 and 3 reveal an absence of the terms "disabled people" or "people with disabilities" within the newspapers (all false positive) and academic literature related to fracking, nuclear energy and nuclear waste whether alone or in conjunction with the term "risk". As to newborn screening, there were no newspaper articles and three academic articles. As to cancer screening, there were 29 academic and 30 newspaper articles. As to vaccine, there were 12 academic articles and 140 newspaper articles.

The terms "disabled people" and "people with disabilities" were much less present if at all than other social groups (except for terms covering indigenous people, terms that often were present just as little). The term "Disability" was more present within vaccine, newborn screening and cancer screening whereby disability was covered within a framework of danger of medical disability or prevention of medical disability not within the framework of the social situation of disabled people. Under vaccine, some newspaper articles used the terms "disabled people" and "people with disabilities" however the term "disability" was used ten-fold more, the term "autism" 20-fold more (mostly with a medical focus) and the term "patient" 70-fold more indicating also a medical focus.



Social groups	Nuclear energy/+risk	Nuclear waste /+risk	Vaccine/+risk	Cancer screening/+risk	Newborn screening/+risk	Fracking/+risk
	13968/ 1767	8302/ 1132	70446/ 22262	6875/ 2726	494/ 102	11458/ 1928
+"Disabled people"	3/ 0	2/ 0	32/ 4	5/ 1	0/ 0	8 all not related/ 3 all not related
disabled	61 none related to disabled people / 14 none related to disabled people	35 none related to disabled people / 9 none related to disabled people	616/ 199	74/ 46; "disabled women" (8/5)	17/ 7	55 none related to disabled people/ 22 none related to disabled people
+"People with disabilities"	2 none related to disabled people / 1 none related to disabled people	6 none related to disabled people / 1 none related to disabled people	76/ 20	25/ 7	0/ 0	21but 20 not related to disabled people / 3 none related to disabled people
"with disabilit*"	11 none related to disabled people /3 none related to disabled people	8 none related to disabled people / 2 none related to disabled people	202/ 58	41/14 "women with disabilities" (11/7)	7/ 6	 35/ none related to disabled people 6 (one related to disabled people)
+ Disability	6 none related to disabled people / 3 none related to disabled people	3 none related to disabled people / 0	760/ 332	72/ 39	20/ 14	65 none related to disabled people / 11 none related to disabled people
+patient	84/ 70	22/ 17	6169/ 2489	1607/ 820	77/ 15	134/ 36
+Women	585/ 48	131/ 75	13375/ 6439	3877/ 2057	73/ 20	662/ 140
+Gender	56/ 19	28/ 3	428/ 157	119/ 68	2/ 0	72/ 20
+"The poor"	96/ 56	19/ 7	617/ 185	44/ 18	1/ 0	160/38



Table 2: Mentioning of social groups in relation to various topics in the Canadian newsstream

Social groups	Nuclear energy/+risk	Nuclear waste /+risk	Vaccine/+risk	Cancer screening/+risk	Newborn screening/+risk	Fracking/+risk
+"Indigenous people" OR "aboriginal people" OR "first nations"	200/ 44	339/ 16	1443/ 766	158/ 69	2/ 1	1515/ 274
Famil* (October 25)	1241/ 153	884/ 137	15548/ 6091	2745/ 1364	225/ 68	1875/ 358
"The public"	1256/ 378	478/ 347	10937/ 4898	861/ 372	44/ 15	2056/ 455
Autism			2014/ 881			



Social Groups	Nuclear energy/+risk//	Nuclear waste /+risk	Vaccine/+risk	Cancer screening/+risk	Newborn screening/+risk	Fracking/+risk
	20956/	1906/	383698/	50100/	5126/	11325/
	19054	1360	49,048	16483	1551	2872
+"Disabled	0/	0/	4/	2/	1/	0/
people"	0	0	1	0	0	0
"disabled"	1/(false positive) /0	0/ 0	97/ 21	26/ 8; "disabled women" (7/3)	11/ 0	0/ 0
+"People with disabilities"	0/0	1/0	5/3	10/ 7	0/ 0	0/ 0
"with disabilit*"	0/	1/	968/	451/	208/	0/
	0	0	225	131	14	0
Disability (often used with a medical connotation such as "disability pension" or "disability adjusted life year")	0/ 0	2/ 0	1498/ 388	382 126	281 32	0/ 0
+patient	53/	7/	36957/	11452/	2308/	5/
	11	1	7931	4152	360	3
+Women	41/	19/	17783/	3877/	420/	13/
	6	11	6467	2057	164	2
+Gender	37/13	18/10	3123/ 1047	1520/ 599	149/ 30	3/ 0



Table 3 Mentioning of social groups in relation to various topics in Scopus and EBSCO ALL Nuclear Nuclear waste Fracking/+risk Social Groups Vaccine/+risk Cancer Newborn energy/+risk// screening/+risk screening/+risk /+risk +"The poor" 44/ 6/ 23/ 35/ 1/ 5321/ 1118 18 0 1 0 1 2/ 4/ +"Indigenous 8/ 99/ 55/ 2/ people" OR 0 2 46 17 1 0 "aboriginal people" OR "first nations" 73/ 57/ "famil*"(October 6731/ 1981/ 636/ 12/ 25) 13 4 1133 1063 144 2 "The public" 1547/ 1024/ 16965/ 2663/ 828 419 283 283 123 22 3984 776 Autism 11761/ 379



All topics could have covered disabled people focusing on their social situation as already outlined above. Disabled people are stakeholders in all the topics covered. When we looked at autism related to the coverage of vaccines, autism is prevalent in the articles but purely within a medical narrative not a social group and social situation narrative instrumentalizing disabled people for one's purpose using the fear of generating 'disability' as a narrative to make one's argument.

As to fracking and nuclear energy/nuclear waste, "the public" is mentioned frequently. Disabled people are not only part of "the public", disabled people will also be one of the groups impacted the most if a disaster occurs. Given the discussions around disaster risk reduction which increasingly states that disabled people should be part of the discussions (The Global Alliance on Accessible Technologies and Environments (GAATES) et al. 2013, Vanmala 2015, Global Facility for Disaster Reduction and Recovery 2015, United Nations General Assembly 2015, UNISDR 2015, Stough and Kang 2015, UNISDR 2016) and the many examples of bad disaster management related to disabled people (Priestley and Hemingway 2007, Wolbring 2009, Fjord and Manderson 2009), thus disabled people deserve more attention.

So why is the finding as it is? We argue MR is a contributing factor.

Motivated reasoning and the media

Our findings are in sync with problematic coverage of disabled people in the media reported by others (Barnes 1992, Clogston 1994, Goggin and Newell 2003, Wolbring and Mackay 2014). Newspapers are known to be influenced by their environment including the readers' preference for reading like-minded news (for some references see (Panesar and Wolbring 2014)). Given the otherness of disabled people and that most readers do not see themselves as 'disabled' it is no surprise that disabled people are rarely covered on social issues beyond the ones explicitly linked to disabled people such as transportation or accessibility. Sometimes the lack of coverage in the media mimics the same missing coverage in the academic literature (Wolbring 2016). The newspaper coverage also might reflect what the dominant public narrative is around disabled people. In the end, given that MR is influencing newspapers (Frensley and Michaud 2006, Levendusky 2013, Conroy-Krutz and Moehler 2015, Hart et al. 2015) our findings suggest that MR might be one dynamic that supports favoring the presence of the medical/deficiency focus of disabled people.

Some say that newspapers matter less as the media landscape is changing. Yeo et al. for example stated the group of people that received their news from online sources increased from 24% in 2004 to 40% and now exceeds newspapers (29 percent) and radio (33 percent) (Yeo et al. 2015). Kahne and Bowyer reported that youth receive as much "news on civic and political issues from Twitter and Facebook posts by family and friends as they were from newspapers and magazines read both online and offline" (Kahne and Bowyer 2016, p. 7).

However, MR is not only impacting newspapers (Frensley and Michaud 2006, Kahne and Bowyer 2017). Whereby the goal of traditional media was to shape news agendas, the 'new



media' agenda is seen to tailor their information to attract a target audience (Yeo et al. 2015). Search engines also provide results back that try to consider the preference of the searcher based on prior search history (Yeo et al. 2015) building in an MR effect without the person even having to act on it or even knowing in many cases.

Some say that social media might make a positive difference for disabled people (Altinay et al. 2016). However, the following line of reasoning of Kahne and Bowyer suggests that the new media landscape including social media might make the situation more problematic for disabled people as it facilitates more otherness and partisan MR. According to Kahne and Bowyer (2016), the increasing ability of individuals to expose themselves only to sources and information that fit their belief and the increase in partisan polarization "make it far easier and more likely for individuals to act on confirmation biases and enter echo chambers or be subjected to filter bubbles through which search engines guide exposure toward views and information that align with views and interests one already holds" (Kahne and Bowyer 2016, p. 7) and "increase the degree to which individuals' judgments are driven by directional motivation" (Kahne and Bowyer 2016, p. 7), see for similar argument also (Meirick 2013, Yeo et al. 2015).

Motivated reasoning and the academic literature

The findings in Tables 2 and 3 add to the existing literature that found a lack of coverage of disabled people in relation to social issues (Berghs et al. 2016, World Health Organization 2011, United Nations 2015) in newspapers, academic literature and policy reports. The United Nations World Water Development Report 4 for example does not mention disabled people as a social group lacking access to water and sanitation although the report mentions other social groups such as women and indigenous people as lacking access to water and sanitation (Noga and Wolbring 2012). The report uses disability within a medical narrative of unclean water and sanitation causing 'disability' (Noga and Wolbring 2012). These reports mention disability only in conjunction with the medical narrative of water born disease and disability adjusted life years (Noga and Wolbring 2012), all indicating a dominance of the medical or negative and deficiency over the social narrative of disability.

Our findings make sense if one assumes the dominance of the medical narrative, because the medical angle does not lend itself to think about social aspects of disabled people. Indeed, under the medical lens our finding around the use of autism makes sense and disabled people might show up under nuclear waste and nuclear energy under terms that indicate a negative bodily consequence such as "mutant", "impairment" or "defect".

MR might have a direct and a secondary effect that might explain the data of table 3 and the general situation of missing academic data on the social situation of disabled people.

As to the direct effect; academics also exhibit MR (Hoffman et al. 2015). This should not be surprising given various aspects of MR such as: wants and desires have the potential to affect individuals' decision-making processes (Kopko et al. 2011, Bruner and Goodman 1947, Bruner and Minturn 1955), the well informed are more prone to MR (Strickland et al. 2011), fear is one



subconscious driver of MR (Beckett 2017), having a stake in the outcome increases the influence of motivations (Kopko et al. 2011) and identity-protective cognition is one specific form of MR (van der Linden 2016). As argued before, policy issues can also shape research agendas (Young et al. 2002).

Another direct effect of MR might be that the medical narrative of disabled people is more dominant than the social narrative (see for example the lawyers mentioned in (Bagenstos and Schlanger 2007) that ignored evidence not in sync with a view of disabled people that fits the hedonistic damages they pursued (Bagenstos and Schlanger 2007).

Academics might focus more on generating data on the body of disabled people if they focus on disabled people at all than the social situation because it is more rewarding, provides better chances of getting funded, of being published in a high impact journal and of obtaining positive evaluation of peers. Even as a scholar who wants to focus on the social situation of disabled people, one might simply not touch certain topics due to funding and other issues.

Our findings from Table 3 might also be a secondary effect of MR. Academics are also influenced by what they are exposed to information wise outside their work and earlier on in life as children and students. If they were mostly exposed to the medical view of disability due to the impact of MR on what data is generated and what the mainstream media report on and other factors they might simply not think about disabled people as a social actor on many topics such as nuclear waste, fracking or food insecurity to name just three.

What to do about Motivated Reasoning?

We found that disabled people are so far not a topic of MR research. We suggest that this must change. Various studies could be undertaken. There are many studies that investigated MR around climate change (Hart and Nisbet 2012, Myers et al. 2013, Hart et al. 2015, Kahan et al. 2015, Christenson et al. 2017) and political partisanship (Hellwig et al. 2008, Levendusky 2013, Anderson and Harbridge 2014, Wagner et al. 2014, Meirick 2016) to better understand the phenomenon of MR. A better understanding of the dynamic and impact of MR in relation to disabled people is also needed in order to be able to deal with such impact. We outlined earlier three areas (the image of the body, the origin of the disablement and the dynamic of ability expectation) that are open for MR which could impact disabled people. However, are there other divisions of views in relation to disabled people or for that matter outside of the direct linkage to disabled people that can be used for MR and that could impact disabled people? Different ability expectations for example are evident in climate change discussions (Wolbring 2009). Desmond Tutu used the term adaptation apartheid to question power relations around whose ability expectations count (Wolbring 2009, United Nations Development Programme 2008) whereby in order to defend ability expectations questioned by others one might employ MR behaviors which indeed is described within climate change discourses which then in turn impacts disabled people.



An engagement with MR in relation to disabled people might also provide more clarity as to whether certain solutions to a problem identified in relation to disabled people works. For example, it is recognized that the coverage of disabled people in newspapers (mostly medical/negative imagery and not social aspects) is problematic and many reasons are given for that (for various references see (Panesar and Wolbring 2014). At the same time, it is noted that newspapers are less relevant given the move to social media as a source of information. However, we suggested above that studies looking at MR and social media (Kahne and Bowyer 2016), indicate that social media will not only not be better but might be worse for disabled people as the MR might be stronger in social media than newspapers. More research is needed as to what to do around media.

Arguments outlined in section 3 suggest that one research question in need of an answer is: What influences academics (disabled and non-disabled academics) from undergraduate to faculty level to choose their research project? We suggested in section 3 that MR dynamics might impact project and career selections in relation to the topic of disability in various ways which could be further investigated. More research might also be warranted on the role of community members as scholars (Wolbring et al. 2016, Wolbring et al. 2018).

Studies suggest various strategies to decrease MR. We suggest studies are also needed on whether and under what circumstances such strategies work or do not work to decrease MR in relation to disabled people.

In order to overcome personal biases and MR, it is argued that it is necessary to be motivated by accuracy goals rather than partisan goals (Suhay et al. 2015) and that the importance of objectivity in the context of scientific inquiries must be emphasized (Suhay et al. 2015). However, given the data from table 2 and 3 and other studies that suggest that the data on the social situation of disabled people is not even generated (Berghs et al. 2016, World Health Organization 2011, United Nations 2015) how can the accuracy goal be fulfilled? How can one overcome personal biases in relation to disabled people if the information available is one-sided?

Disabled people reported that they feel they are not part of decision-making processes in part because of the dominance of the medical imagery applied to disabled people (Wolbring et al. 2013) which simply makes people not realize that disabled people have a stake in many social issues discussed.

As to objectivity, some such as the ethicist Harris argue that if one is objective or rational then one must see the body of a disabled person in a negative light in need of being fixed (Harris 2000b, Harris 2001). As such, disabled people who do not see a need to get fixed are seen as not rational, not objective. Does this mean that objectivity in the context of scientific inquiries (Suhay et al. 2015) requires the premise that disabled people must be fixed?

Reasoning strategy favor one's in-group (Kernahan and Bettencourt 2002). It is stated that if it is inevitable that one has to deal with a person, that one is motivated to perceive the person more favorably because one wants to feel positively about one's future (Kernahan and



Bettencourt 2002). This suggests that one path for disabled people is to have an integrative society where disabled people simply are a fact of life and where one has to engage with them. However, research is needed to see whether this only works on individuals on a localized level or also a societal level. Research is also needed to answer the question as to how different from oneself a disabled person must be for this dynamic to work.

Explicit explanations, transparency and reduction of uncertainty is said to decrease MR (Nisbet 2016). Explicit explanation also depends on the availability of information which in the case of disabled people is often not available. Uncertainty can often be reduced within a medical framework through testing. Given the situation of disabled people and the two lenses (medical/social), we suggest it being a worthwhile study to look at how a decrease of uncertainty and MR would play itself out around disabled people. It might favor the medical versus social imagery and information of disabled people.

Motivated reasoning is identified "as a set of biases that inhibit a person's ability to process political information objectively" (Lenker 2016, p. 511). A review by Lilienfield, Ammirati, and Landfield (2009) suggests that there is less work done on identifying biases versus how to debias. As such studies are needed that look at the bias's MR triggers or impact of MR on existing biases in relation to disabled people. Lilienfield, Ammirati, and Landfield (2009) identified various obstacles for implementing de-bias strategies such as that many people do not see themselves as biased. We use the *BIAS FREE (Building an Integrative Analytic System for Recognizing and Eliminating inEquities* Framework (Burke and Eichler 2006) in our teaching to make students realize the existence of certain biases within themselves or sample literature and to find real life examples for the biases in relation to disabled people and they are amazed how many examples one can find for the biases covered by the BIAS FREE Framework in relation to disabled people. The BIAS FREE framework lists over 20 biases categorizing them in accordance to three set of problems namely maintaining an existing hierarchy, failing to examine differences and using double standards (Eichler and Burke 2006, Burke and Eichler 2006).

We see the BIAS FREE Framework as a useful tool for critical thinking and bias-literacy of a given text from academic articles to news items and critical self-reflection. However, that does not mean that the ones who are engaging in partisan, directional or confirmation bias will change their behavior only because they are shown that they exhibit certain biases, something identified as a barrier by (Lilienfeld et al. 2009, Kahne and Bowyer 2016). However, we posit that to be able to identify and be aware of biases is one important step. In sync with (Kahne and Bowyer 2016) argument of increasing literacy already on the high school level, we suggest that the BIAS FREE framework would be useful tool to be used on the high school level.

MR is employed as a strategy by individuals in relation to what they see themselves at-risk for (Shiloh et al. 2009). MR leads to inaccurate risk assessments and judgments based on false claims of objectivity (Minkoff and Marshall 2016). Marteau and Drake suggest that the process of cognitive dissonance, one process impacted by MR, is one process that makes the attitude



towards disabled people more negative in the wake of increasing availability of prenatal testing (Marteau and Drake 1995). Marteau and Drake (1995) suggest that in order to justify a termination decision for a specific condition it might be necessary to exaggerate the nature of that given condition. If that is the case it seems logical that MR is used to support the decision one has made. Indeed the many articles linking a low quality of life to disabled people ignoring evidence to the contrary (Gerhart et al. 1994, Koch 2000) might be how MR feeds into the cognitive dissonance that allows for the acceptance of the termination narratives. This suggests that the risk label linked to disabled people (Marteau and Drake 1995, Wolbring 2017a, Wolbring and Diep 2016) and the medical imagery will be increased with MR and that given today's societal reality that it might be difficult to decrease the medical imagery of disabled people.

As social stigmatization is seen as an 'at risk' parameter which changes how people think about health, disease death and life in general (Shiloh et al. 2009), there is a need to decrease the social stigmatization of disabled people.

Perceived threats and uncertainties increase identity enhancing values (Thorisdottir and Karolinudottir 2014). Given that losing abilities is seen as a threat this will lead to a behavior that pushes even more for the ability norm as this would enhance one's existing identity by adhering to normative ability values supporting existing ability privilege dynamics (Wolbring 2014). Many elderly adhere to youthism (the desire and expectation to have abilities of youth) (Banjo et al. 2010, Ball and Wolbring 2014) in order to escape ageist treatment which is in sync with being seen as impaired and the social stigma of being seen as a disabled elderly. Research resources directed at understanding and achieving "extreme longevity" pay further tribute to youthist beliefs (Caplan 2005).

If the system justification theory is correct which assumes that "people have a motivation to rationalize and justify how political and social arrangements work" (Thorisdottir and Karolinudottir 2014, p. 301) disabled people have a hard stand against this justification.

Given many of the aspects of MR reported, we suggest that the lens of ability expectation (Wolbring 2014), a lens that is used heavily in relation to disabled people (see the many articles around ableism) might be a useful one for people to see the bigger picture. Teaching the bigger picture of ability expectation might decrease the otherness of disabled people because their negative experience with ability expectations of more powerful groups and individuals is not that different from the working poor or people who get replaced in their jobs through automatization. Ability expectations as a lens might be useful to generate strategies that decrease impacts of MR. Ability expectations as a lens might also allow unmasking hierarchies of ability expectations people will use MR on and for. Ability expectation governance (Wolbring 2010, Wolbring 2017b) might be a possible umbrella under which one could discuss MR not only in relation to disabled people but also other groups. Indeed, we suggest that ability expectation governance might be one lens that could be used to build a community of all groups and people impacted by the negative use of ability expectations and as such decrease the isolation of disabled people and to



acknowledge that problems disabled people face are not their problems alone but are manifestation of a bigger societal problem.

Conclusion

Our article provides empirical data showing that MR has not been engaged with yet in relation to disabled people. Studies outlining characteristics and dynamics around MR suggest that MR impacts disabled people and we outlined some areas in our article. Given that research has shown that simply educating people about the pervasiveness of MR is not enough (Thorisdottir and Karolinudottir 2014), it is clear that our article which could be seen to educate people on MR and disabled people is not enough. As such, we suggest various types of studies that should be undertaken in the area of MR and disabled people. We also suggest that the lens of ability expectation (Wolbring 2014) and ability expectation governance might be useful for MR research especially to discuss the bigger picture of societal problems to which MR contributes.

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