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SCIENTIFIC CONTRIBUTION

Body matters: rethinking the ethical acceptability of non-beneficial clinical research with children

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Abstract The involvement of children in non-beneficial clinical research is extremely important for improving pediatric care, but its ethical acceptability is still disputed. Therefore, various pro-research justifications have been proposed throughout the years. The present essay aims at contributing to the on-going discussion surrounding children's participation in non-beneficial clinical research. Building on Wendler's 'contribution to a valuable project' justification, but going beyond a risk/benefit analysis, it articulates a pro-research argument which appeals to a phenomenological view on the body and vulnerability. It is claimed that children's bodies are not mere physical objects, but body-subjects due to which children, as persons, can contribute to research that may hold no direct clinical benefit to them even before they can give informed consent.

Keywords Body · Children · Ethics · Phenomenology · Non-beneficial research · Vulnerability

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Introduction

Informed consent provides the key moral foundation to conduct research with competent human subjects (Kodish 2005, p. 12). While research that holds direct clinical benefit for the individual subject can be ethically justified by this very feature, non-beneficial clinical research is much more controversial. For (competent) adults, participation in this type of research can be justified by the importance of the anticipated knowledge *and* by the fact that they can give informed consent. For children, however, the discussion surrounding research participation is subjected to much more scrutiny because of their (legal) inability to provide informed consent. This may explain why within ethical research guidelines children are generally viewed as vulnerable subjects in need of special protection, together with pregnant women, minority groups, older persons, prisoners and persons who are mentally disabled or otherwise cognitively impaired. Whereas the *Nuremberg Code* (1948) explicitly banned research with vulnerable subjects, subsequent international guidelines (*Declaration of Helsinki*, *Guidelines of the Council for International Organizations of Medical Science*) deemed this position as flawed and allowed for substituted consent by a legal guardian (Weisstub et al. 1998, pp. 386–387). These documents also identified a number of additional safeguards, framing the enrollment of children in research around two fundamental ethical pillars: the scientific necessity of the research in question and a minimal risk burden (Roth-Cline et al. 2011, p. 221). Most U.S. federal regulations add a third requirement, namely the positive agreement (assent) of children who are capable of providing it (Wendler and Shah 2003, p. 1). Some scholars, however, argue that as long as children's most important interests are guaranteed, that is, as long as they are

protected from *undue* risk, some degree of exploitation is ethically justified (Shah 2013; Piasecki 2014).[1] These differing approaches show that the ethical preoccupation surrounding *non-beneficial* research with children continues to persist. The delicate nature of this type of pediatric research is well illustrated in the introduction of *Ethics and Research with Children* (2005) with the story of Abby, a twelve-year old girl with terminal cancer, who is eligible for a drug study which holds little or no prospect of helping her, but which might be important in the fight against childhood cancer (Kodish 2005, p. 3).

In the 1970s Paul Ramsey stated that the very nature of pediatric research without the prospect of direct clinical benefit is *simply unethical* (Ramsey 1970). In response to this, various pro-research justifications have been proposed that either focus on children's (anticipated) choices or interests. However, both approaches somehow fail in addressing Ramsey's original concern. The first does not recognize that children are not legally competent adults who are unable to provide informed consent; whereas the so-called well-being-approach focuses too much on risk and on various forms of non-medical benefits to compensate for that risk. Still, Ramsey was not only preoccupied with the *potential risks* of non-beneficial research; rather his concern seemed to be that there is something wrong with *enrollment* itself: his point was that morally no parent should consent *even if there is no risk* because a subject can be wronged even *without* being harmed (Ramsey 1970, p. 39; Friedman Ross 2004, p. 526; Wendler 2010, p. 48). In his view, *any* type of clinical research which has no direct relation to the child's own health is impermissible because only informed consent (which children legally cannot give) can morally *transform* incursions on bodily integrity (Wendler 2010, p. 50). Thus, also research with no or a very low risk and some kind of non-clinical benefit would be impermissible. Such a strict refusal is problematic because drug-safety and efficacy in adults can rarely be extrapolated to children. Hence, without research every child risks to remain an experiment within the medical care setting and this without the possibility of advancing generalizable knowledge. This explains the increasing number of pediatric studies—most of which are non-beneficial—requested by the FDA (Litton 2008).

The aim of the paper is to contribute to the on-going discussion of non-beneficial research with children by offering a justification for it that is grounded in a phenomenological approach. Instead of focusing on a risk/benefit analysis or on children's future choices, we believe it is necessary to *take a step back* and focus first on the *prior* question of ethical permissibility of such research, which we consider to be deeply entrenched with the moral relationship between bodies and persons. In other words, *before* we can talk about the risks and benefits of a *concrete* research study, we need to address the more fundamental question of whether non-beneficial clinical research with children is *ever* morally justifiable. We argue that the central problem with this type of research is that it impinges on the child's *body* and claim that the real ethical issue behind this discussion is not so much the absence of informed consent, but concern about bodily objectification. Our approach is indebted to Wendler's (2010, 2012) 'contribution to a valuable project' justification. Still, we believe that, by insisting on the non-clinical benefit of having a better overall life as a possible justification for this objectification, Wendler does not completely tackle the original and prior problem regarding the body's engagement. Unlike Wendler, we claim that children's bodies are not mere physical *objects*, but body-*subjects* due to which children, as *persons*, can contribute to research even before they can give informed consent.

The article is divided in four sections. First, we briefly explore the historical background to current discussions on non-beneficial clinical research with children. Then, we examine some of the main arguments offered to counter the claim that children's participation in such research is unethical. The third section explores Wendler's 'contribution to a valuable project' justification and discusses some key objections raised against his position. In conclusion, we develop a pro-research argument by connecting the notion of vulnerability with that of human embodiment. We point out that corporeal vulnerability is an inescapable dimension of life itself which has a double meaning: we are not only vulnerable in our body, we are also vulnerable to our body in the sense that our body is constitutive of who we are. Our claim is that the ethical acceptability of non-beneficial clinical research with children can be grounded in the latter, constitutive understanding of the body.

From protection to access: a one-way ticket?

In the past, children have often been victims of harmful experiments conducted without any regard for their human dignity. The hepatitis study performed at the Willowbrook state school in New York—an institute for the mentally disabled from 1947 to 1987—is often cited as one of the most serious violations in childhood research after the Second World War. Since the publication of Henry Beecher's 'Ethics and Clinical research' (1966), Willowbrook has become a potent symbol of *unethical* research with children (Robinson and Unruh 2008, p. 80). One of the main arguments raised against the study is that to

[1] This principle is described as the secure child standard and clearly distinguished from the best interest standard which they think is incompatible with non-beneficial research.

experiment on one group of children solely to benefit another one is morally wrong (Robinson and Unruh 2008, p. 82). Within a few years of Beecher's publication, the ethical challenge of such research on children became an intensely debated subject. According to Paul Ramsey "to experiment on children in ways that are not related to them as patients is a sanitized form of barbarism" (Ramsey 1970, p. 12). His position was to exclude children from all non-beneficial clinical research.[2] Although a quite radical view, it has an intuitive appeal. Given children's (legal) incapacity to give informed consent and because of the *overall* benefits to children as a *group*, non-beneficial clinical research seems to *instrumentalize* those children who are included in research. This form of instrumentalization appears justified only on consequentialist grounds (Litton 2008, p. 364), but is not persuasive since it cannot account for the widespread moral intuition that actions which instrumentalize certain children for the benefit of the whole are wrong as they do not respect children's *inherent* value (Litton 2008, p. 399). In response to Ramsey's position, Richard McCormick stressed the importance of moral education for children's personal well-being and flourishing: children are part of the moral community and as social beings they *ought* to transcend their individual good by contributing to the general welfare (McCormick 1976; Friedman Ross 2004, p. 527). Thus, the decision of parents to volunteer their children for participation in research (particularly in non-beneficial ones with minimal risk) is ethically valid (Carroll and Gutmann 2011, p. 94) insofar it is consistent with treating them as an end in itself, understood here as *social* beings (Friedman Ross 2004, p. 527).

The debate between Ramsey and McCormick has had great impact on the legal and medical communities and on the subsequent research guidelines of the 1970s (Kodish 2005, p. 6). In these regulations the vulnerability of children was a prime issue. Strict research criteria and particularly the 'children's last' argument—which stated that research must be conducted first on animals and adults—severely limited pediatric research (Friedman Ross 2004, p. 528). Although these research reforms were intended to provide greater protection for the child subject, they had a serious drawback: children were turned into "therapeutic orphans" (Shirkey 1968) because pediatric health issues were understudied and underfunded (Friedman Ross 2004, p. 529).

In recognition of the importance and necessity of pediatric research, in the early 1990s, various regulatory bodies in different countries began ensuring greater access to children for research purposes. These changes were driven by the socio-political context of that period: the need to provide an answer to the AIDS crisis,[3] the shift within policy from a needs discourse to a rights discourse, the emphasis on the significance of children's participation rights by the United Nations Convention on the Rights of Children, the growing concern on ensuring equity to share benefits, and the increasing ties between clinical research and the pharmaceutical industry (Sharav 2003, p. 15). Legislation—like the USA *Food and Drug Administration Modernization Act* (1997) and the *Pediatric Rule* (1999)—helped to increase the enrollment of children in research studies by requiring adequate pediatric labeling and by providing strong economic incentives to pharmaceutical companies to test medications in children. Moreover, researchers were encouraged to include children through the governments' determination of public grant funding that prioritized research with pediatric subjects (Friedman Ross 2004, p. 530). Together with these legislative measures, research guidelines became more 'accommodating'.

Under current international regulations, non-beneficial research may be approved if the risk of harm to which children are exposed is *minimal*. Minimal risk may be assessed on the participants' routine experiences, but is usually indexed to the risks that *average*, *healthy* and *normal* children may encounter in their daily life or in routine physical or psychological examinations (Roth-Cline et al. 2011, pp. 225–226). More controversial is research involving minor increase over minimal risk.[4] This type of studies is permissible in two situations: if it is likely to provide important knowledge about the participant's disorder or condition and if the research is commensurate with the procedures that participants who have this condition ordinarily experience (Friedman Ross 2003, p. 109). Although, a 'minor increase' over minimal risk is not clearly defined, the general idea is that, under exceptional circumstances, it can be appropriate to expose children to risks that are slightly greater than the risks children would

[2] To a certain extent Ramsey's position is more complex: he thinks that pediatric research for the benefit of others is unethical, but allowable if investigators "err bravely" (1976, p. 21). He believes that if researchers are critically aware of the fact that what they are doing is wrong then research will go on, but in a cautious way (Wendler 2010, p. 281).

[3] The aids epidemic presented the pharmaceutical industry with the opportunity to loosen regulations regarding drug evaluation as aids activists sought immediate approval of potential life-saving experimental drugs (Sharav 2003, p. 15).

[4] Although, it is widely held that children should not participate in research that poses greater than a minor increase over minimal risk and does not offer the prospect of direct benefit, U.S. regulations include a category for pediatric research (407/50.54 category) that does not include an explicit limit on risks, raising the question of whether current regulations provide sufficient protection for pediatric research subjects. Since this type of research is only permitted in extremely rare circumstance, we will not discuss it any further here. For a recent critical reflection see Wendler (2013, pp. 1–8).

ordinarily encounter in daily life or during routine examinations (Wendler 2013, p. 2).

The shift from protection to participation of children in research has carried with it both benefits and drawbacks (Kodish 2005, p. 4). It is claimed that although the research gap in pediatric health care has been reduced, regulations have become *too* permissive (Sharav 2003; Friedman Ross 2004; Edwards 2012). The notion of 'minimal risk' remains ambiguous (Thompson 1990; Friedman Ross 2003; Kopelman 2004; Shah et al. 2004; Resnik 2005; Wendler 2009) and differences exist regarding what researchers classify as minimal risk (Friedman Ross 2003, pp. 108–109). For some, the current definition of minimal risk not only fails to provide an adequate standard to determine the appropriate risk threshold for pediatric research, but also ends up legitimizing unethical research practices (Friedman Ross 2003, p. 109; Sharav 2003, p. 2003). For instance, researchers might get so overwhelmed by their commitment to scientific progress, that they might breach the boundaries of ethically sound research (Kodish 2005, p. 22). Worrisome is also the infiltration of utilitarian business ethics in the development and prescription of pediatric psycho-pharmacological drugs to treat behavioral 'disorders' in children (Sharav 2003, pp. 12–15).

Despite worries about scientific integrity and concern for an appropriate risk threshold, barely anyone, really seems to call into question the *necessity* of non-beneficial clinical research to improve the well-being of children. This underscores the importance of finding a persuasive answer to the question of whether we can ever give an ethically sound justification for research that does not offer children the potential for clinical benefit (Wendler 2012, p. 24).

In search of a non-consequentialist justification for non-beneficial clinical research

Non-beneficial clinical research is deemed unacceptable as it seems to use children for the sake of others since it exposes them to procedures that involve a certain degree of risk, but offer no compensating potential for clinical benefit. The search for a non-consequentialist justification for such pediatric research usually starts with Kant's principle of treating any person always as an *end* and never simply as a means (Broström and Johansson 2014, p. 55). To ensure that children are treated as ends in themselves when they are enrolled in research, most scholars have focused either on children's choices or interests. That is, in order to respect children, our actions have to be guided either by the intention to approach them in a way that engages their *own will* or by a sincere concern for their *personal well-being* (Broström and Johansson 2014, p. 55). In section four, we will develop a third approach which makes reference to respect for children's constitutive embodiment.

Within the will-approach, it is argued that non-beneficial research does not instrumentalize children if there is reason to believe that their participation reflects the choices they would make once they are competent (Wendler 2010, p. 12). This claim is based upon the presumption that reasonable individuals will predictably consent because helping others is the right thing to do (McCormick 1976). The problem with this argument is that it lacks empirical evidence since people are not always likely to help others (Wendler 2010, p. 59). Moreover, it would be impossible to establish a priori who would choose to help others and who would not. Others point out that children have the obligation to consent (if they were able to) because they have received and benefited from previous research efforts (Veatch 1987; Harris 2005) or from a cooperative social system (Brock 1994). The difficulty with this approach is that "the enjoyment of benefits typically does not impose obligations on recipients who have no choice but to accept them", as is the case of children (Wendler 2010, p. 96). These will-oriented justifications have a *fundamental* limitation: they all appeal, in one way or another, to children's presumed or future capacity to informed consent, failing to accept that children are children and not legally competent adults (Wendler 2010, p. 78; Wendler 2012, p. 23).

Those who focus on children's well-being (best interest) and on the impact research has on them judge research not on informed consent, but on the potential *risks* that enrolled children may face (Wendler 2010, p. 62). One side of this argument justifies non-beneficial clinical research by insisting that risks should be negligible (Curran and Beecher 1969; Murray 1996). The problem with this account is that it may provide an ethically acceptable threshold for the *level* of risks to which children are exposed, but that is not the same as offering a justification for children's participation in studies that satisfy this standard (Wendler 2010, p. 33, pp. 63–64). Moreover, by focusing almost exclusively on risk levels, this perspective loses sight of the social value of research, which is after all the reason for doing research in the first place (Wendler 2010, pp. 81–82). This is why several scholars (Bartholome 1976; Ackerman 1980; Williams 2012) have turned the value of research into a virtue (Wendler 2010, p. 92): parents can enroll their children in non-beneficial clinical research because it fosters their moral development (altruism) and provides them the means to live an autonomous adult life (Wendler 2010, pp. 91–92). It is claimed that, as long as this development is sought for the children's sake, they are not instrumentalized in any objectionable sense. Still, according to Broström and Johansson (2014, pp. 54–55) the prospect of children's development is never a *strong* enough *reason* to

involve children in this kind of research as it rather functions as a welcome by-product. Moreover, as Wendler argues, the development argument lacks empirical evidence and can justify research only with children who have the necessary cognitive capacities to understand the value of helping others, excluding therefore research with very young children (Wendler 2010, pp. 92–94; Wendler 2012, p. 27).

A contribution to a valuable project

In Wendler's view, non-beneficial pediatric research should mainly be judged on the risk/benefit ratio for the children who are enrolled in research rather than on informed consent. He claims that any appropriate justification for such research should be consistent with the risk allowance and the risk ceiling conditions, as identified by US regulations. The first condition holds that it can be acceptable to expose children to some research risks for the benefit of others, the second one states that children may be exposed only to low risks (Wendler 2012, p. 30). The moral development argument for inclusion of children in non-beneficial research provides various vital insights for Wendler's own analysis. First, by focusing on children's interests, it rejects the adult-centric view on children which is typical of an informed consent (will) based approach. Secondly, it is consistent with the intuitive judgment that the social value of research is critical for participation. Third, it makes the important point that enrollment in non-beneficial clinical research can benefit children in non-clinical ways (Wendler 2012, p. 26). On the other hand, however, Wendler wants to overcome the limitations of the moral development approach as discussed above. This explains why he tries to avoid any reference to cognitive capacities in his justification for non-beneficial research with children. Wendler emphasizes that risk exposure in non-beneficial pediatric research can be justified if participation is in the child's best interests. He subsequently defines (human) interests in terms of having a better overall life. One way for having a better life is to be part of meaningful and valuable relations, activities and projects because these contributions can become part of one's unique life story (Wendler 2010). Thus, one life is better than an otherwise identical life, if it includes contributions to a good cause. This creates room for the possibility that contributing to valuable (non-beneficial) research might be in children's best interests. The question is whether children's participation in research qualifies as them making a contribution. For Wendler it is a mistake to assume that the capacity for informed consent is coextensive with making a contribution because it is fundamentally a *causal* notion. He states that even very young children can make causal contributions because they *have* bodies (Wendler 2012, p. 29). Of course, the more children understand, the more they will benefit from their contribution, but even in the case of a pure physical contribution, there can be a benefit, however marginal it might be (Wendler 2012, p. 29). In other words, even if children do not embrace their contribution, they benefit from it: the fact of having made a contribution to a valuable project, makes their life objectively better overall, that is, it has important implications for the normative value and meaningfulness of their lives. The fact that they as adults *may* come to embrace those contributions as valuable parts to their lives, constitutes another potential source of benefit because it may lead them to make other valuable contributions and lead better lives (Wendler 2012, p. 29). Unlike the benefit of altruism approach, the possibility of embracing as an adult one's contributions does not require that one understands the contributions at the time they are made (Wendler 2012, p. 27) and thus, it does not exclude the participation of small children. The 'contribution to a valuable project' justification also satisfies the two risk conditions: the potential of doing something meaningful justifies exposing children to risks, but only minimal ones, since contributions made as children influence one's life only in minor ways (Wendler 2012, p. 29). This is why Wendler, in line with the widely accepted order of preference of classes of research subjects, prefers the enrollment of older children over younger ones.

Several objections might be raised against Wendler's account. First, it is possible that, as adults, some individuals might be indifferent to (or might even reject) the contributions they made as children. However, in Wendler's view that does not make parents' decision to enroll their children unethical. The risk/benefit profile, in fact, should not turn out favorable in every case; a study should only be consistent with children's interests *ex ante* (Wendler 2012, p. 24). Secondly, even if we accept Wendler's claim that making a contribution to something valuable can enhance children's interest, the problem is that we cannot know in advance whether a study will be actually valuable or not (Wachbroit 2012, p. 41). Phase 1 trials, for example, often fail because they do not result in improved treatments. Wendler could rebut this argument by insisting that what is determining is the *rationale* behind every research study, that is, regardless of their concrete results, all studies are valuable because they are grounded in the desire to help others. Third, according to Litton (2012, pp. 44–46), Wendler cannot explain why the overrepresentation of children who lack adequate access to medical care is wrong because he focuses mainly on the outweighing of risks and benefits. Although medically underserved children's well-being might be improved by participating in research, their overrepresentation is nevertheless unfair because it means

that those who get the least out of pediatric healthcare are also those who are burdened the most by clinical research (Litton 2012, p. 45). Wendler could reply that he is primarily concerned with finding a convincing justification for *particular* instances of non-beneficial pediatric research and that this has no direct implications for the legitimacy of the overrepresentation of the medically underserved which is instead a *policy* issue. A fourth major critique on Wendler' account brings us back to Ramsey. Wendler believes that it is ethically permissible to enroll children in non-beneficial research with minimal risks (or minor increase over minimal risk) if these risks are outweighed by the non-medical benefit of contributing to a valuable project. However, as outlined in the introduction, Ramsey (1970) was not only concerned with the possible risks children may face in research, for him there is something wrong with enrollment itself. Even in the absence of risk, non-beneficial clinical research with children is ethically problematic for the simple fact that children are unable to give their consent to these kinds of bodily invasions. In the case of research which offers a compensating potential for clinical benefit, these incursions on bodily integrity can be "overruled" in the name of the child's physical well-being. The question is whether this also holds true for Wendler's 'contribution to a valuable project' benefit. This brings us, together with Broström and Johansson,[5] to the following question: what role does 'leading a better life by contributing to a valuable project' play in parents' decision to enroll their children in research (Broström and Johansson 2014, p. 56)? Is it of great significance or is it only a kind of welcome byproduct? In relation to this another question must be raised: what other, maybe better ways, are there to lead a meaningful life (Broström and Johansson 2014, p. 56)? Of course, Wendler could refer to the fact that children's participation in non-beneficial clinical research makes their contribution somehow greater (because the potential to realize this benefit is negatively correlated with that of clinical benefit), but that would still beg the question why the same result cannot be obtained by participating for example in social research. Many social research studies, in fact, do not benefit the research participants directly, but aim to solve greater social problems. Moreover, although social research may entail psychological, economic, social and legal harm, children's participation in this type of research is somehow seen as less problematic because it does not impinge upon the individual's body.[6] Wendler argues that although the involvement of children's bodies in clinical research is often taken as a cardinal sign of its wrongness (Wendler 2010, p. 244), the role of the body in this kind of research is not necessarily problematic. Engaging the body can also be beneficial because it brings individuals as physical *objects* in the causal nexus of the research project, promoting therefore the interest they have to contribute to a valuable project (Wendler 2010, p. 144). It is nevertheless hard to imagine that the concern about the body's role would disappear by insisting on the *purely passive* contribution of children's physical body, even if children can come to embrace these contributions later on. By focusing on the benefit children can obtain, Wendler somehow sidesteps the original problem regarding the body's engagement.

The body, ourselves: broadening the notion of vulnerability

Despite their differences, the will and the well-being approach share a common presupposition consistent with a good part of the bioethical (research) literature. They look upon children as vulnerable beings whose primary vulnerability consists in their limited capacity to provide informed consent or in their susceptibility to being harmed by research. We argue that such a restrictive reading of vulnerability sidelines the ever growing and significant body of literature in which vulnerability is re-conceptualized in terms of an *inherent* human *condition* which is intimately linked to the *body* (Rendtorff and Kemp 2000; Rogers et al. 2012) and not just as a characteristic of a certain type of people (i.e. children) or as a contingent feature of a particular situation (i.e. pediatric research). Our aim is twofold. We want to emphasize that corporeal vulnerability is an inescapable dimension of life itself and that the vulnerability *of* the body has a double meaning: we are not only vulnerable in our body—in the sense that our body is exposed to violence and death—we are also vulnerable to our body in the sense that our body is constitutive of who we are (Ricoeur 1992; Cavarero 2009). We argue that such a constitutive understanding of the body opens up the possibility for an ethically acceptable justification for non-beneficial clinical research with children.

Concern for vulnerability is at the heart of bioethical inquiry. However, until recently, the notion itself was largely left undertheorized (Rogers et al. 2012, p. 11). Schematically, two different uses of vulnerability can be distinguished (Kottow 2003; Kottow 2005; Cavarero 2009;

[5] They develop this interesting critique in regard to the moral development argument, but in our opinion it can also be applied to Wendler's analysis.

[6] That is not to deny that social research *can* be ethically problematic (e.g. research on domestic violence, neglect, abuse, pediatric disorders, etc.). The point is rather that children's participation in social research is *not ipso facto* problematic. In fact, a great deal of social research (such as on nutrition, life style, school etc.) is often considered quite mainstream.

Petrao Neves 2009). First, in bioethical research regulations and guidelines it generally represents concern for vulnerable groups that need special protection because they are relatively (or absolutely) incapable of protecting their own interests due to the presence of certain disabling characteristics (CIOMS 2002). The problem with this label approach is that it easily results in stigmatization and paternalism. Another important criticism is that the use of the descriptor 'vulnerable' has become over-inclusive to the point that is has lost its force in responding to specific vulnerabilities in research (Hurst 2008; Levine et al. 2004; Schroeder and Gefenas 2009). Alternative approaches to vulnerability have attempted to overcome these difficulties by identifying the sources (Kipnis 2003) or layers of vulnerability (Luna 2009; Luna and Vanderpoel 2013) rather than focusing on one particular fixed characteristic. Although these accounts provide a more nuanced perspective than the labelling approach, they continue to perceive vulnerability as something that should be reduced or eliminated. Vulnerability, however, may also refer to an ontological condition that all human beings share (Turner 2006; Ricoeur 1992; Fineman 2008; Petrao Neves 2009). We cannot will away this vulnerability because it is constitutive of who we are. Understood in this way, vulnerability expresses three basic ideas. It refers to the finitude and fragility inherent to human embodiment, it may also stand for the human body as manifestation of the human person and it also represents the inherent sociality of human life, that is, as embodied beings we are exposed to the wound that the other can inflict and the care that the other may provide (Cavarero 2009; Rogers et al. 2012, p. 19). In this second reading, vulnerability is theorized, not so much as something to be overcome, but rather as something which has to be acknowledged and respected. Within mainstream (Anglo-American) bioethics (Beauchamp and Childress 1979) there is a general tendency to understand vulnerability in the first sense, whereas in feminist bioethics (Rogers et al. 2012) and European bioethics and bio-law (Rendtorff and Kemp 2000) the latter meaning is more diffused.

There is a powerful convergence between these two different approaches to vulnerability and their respective views on autonomy and the body. Within the first reading, vulnerability figures as a shortcoming to be overcome by strengthening the respect for autonomy and informed consent. The latter two notions are embedded in an ethical model based upon a rational and independent decision-maker who has the right to bodily self-determination. In other words, people have the right to dispose of their bodies as they choose and this right is grounded in persons' moral ownership of their bodies (Mackenzie 2010, pp. 72–73). Still, the notion of property in the body is a fiction because "property" requires a separation of who owns from what is owned and persons can never be totally separated from their bodies (Dickenson 2007). Within contemporary political philosophy and feminist bioethics, this leading *individualistic* account of autonomy is often regarded with suspicion as it risks to remain blind to the ways that social relationships, social forces (such as the school, the media, politics and so on) and the complex set of interacting interests within the research context might impair the capacity of a decision-maker to freely give informed consent (Weisstub 1998, pp. 68–72; Mackenzie 2010, p. 82). In order to do justice to this interdependence of the self, these authors re-conceptualize autonomy in terms of relational autonomy and instigate a similar "relational" re-conceptualization of the notion of vulnerability (Mackenzie and Stoljar 2000). The emphasis on relationality has deepened bioethical thinking about the conditions of human agency and has unmasked somehow the myth of self-sufficiency. The human condition approach to vulnerability discussed above highlights this relational dimension of human existence, but in our view it also shows that vulnerability is not just an experience of intersubjectivity; it can also be something very intimate insofar it reveals something about the relationship between persons and their bodies. This approach in fact is governed by a different body paradigm, which is derived from the underlying influence of continental philosophy (and in particular of phenomenology). In this reading, persons are not seen as separate from their bodies; on the contrary, as *embodied* beings our bodies are *constitutive* of our persons (Ricoeur 1992). They belong to us because they are *expressive* of our *person* and *agency*. They are the background from which we perceive and engage with the world, and this is maybe especially the case for children insofar they are somehow defined by their developing bodies (Mackenzie 2010, p. 80; Fingerson 2011). This view is also consistent with the lay understanding of the body. For most people, in fact, the body is intricately interwoven with who they are and their bodies are the locus of their uniqueness (Campbell 2009, p. 101). It would be wrong to dismiss the identification between body and person as a mere subjective opinion, since it is a persistent and widespread—though largely *implicit*—belief, as is testified by the many rituals concerning the dead across various cultures.

The difference between these two approaches to the body can best be illustrated by way of an example. In the autumn of 1999, a controversy emerged in the United Kingdom over the unauthorized removal, retention and disposal of children's organs following post mortem examinations (Campbell 2009). The Alder Hey Hospital in Liverpool was at the centre of the scandal. From 1988 to 1995 the hospital had "harvested" organs and tissue from approximately 850 deceased infants. This discovery resulted in a storm of public outrage and protests. The

bereaved parents were devastated and horrified by the knowledge that the hospital, without their consent, had taken out organs and tissues of their beloved ones and had thereby dishonoured their bodies and memories (Campbell 2009). The parents' distress can be easily understood in light of the constitutive significance of embodiment to most people. Many medical scientists, however, are "out of touch" with this notion of embodiment (Shildrick and Mykitiuk 2005). To them organs removed from a dead body are primary sources of information which can help to gain a better understanding of the effectiveness of therapies and the causes of death (Campbell 2009, pp. 100–101). Some of them even believe that the dead body should be viewed as a (community) resource for the benefit of others (Campbell 2009, p. 12).

Most discussions in the aftermath of the Alder Hey scandal focused on the issue of informed consent. Many commentators argued that the decision of not informing parents about what a post mortem examination exactly entails, was a form of unjustified *paternalism* (by depriving them of their parental autonomy) rather than of justified *beneficence* (by sparing them further anguish). In our opinion, however, the real ethical issue in the widespread practice of retaining organs is a different one. We should ask, in fact, whether it makes sense to claim that parents feel *distressed* because their parental *rights* have been violated. It might be convincing to say that such a violation makes them feel angry, but the feeling of *anguish* and *outrage* indicates that there is another aspect that is also crucial here. One should not forget that most families argued that they would have given their consent *upon* the assurance that their decision would have *helped* other children (Campbell 2009, p. 100). This is in line with what has been articulated by most organ donors: for some it is a way to help people in need, while others want to be part of on-going scientific research or they hope for a sort of afterlife in another person. In each of these cases the donors identify themselves somehow with their bodies. It is through their bodies that they hope to realize these things, *as if* they were still "there". Thus, contrary to what is often assumed, body donation is not based upon a presumed cleavage of the self and the body; but severely challenges dualistic modes of thinking. Now, by using children's organs without their parents' knowledge, the Alder Hey Hospital had reduced the children's body to nothing more than a helpful resource, failing to *recognize* the role these *children* as *persons* had in helping out other children. But given that for most people body and person are equated, treating bodies as mere tools entails treating these children as mere means (Dickenson 2007). It is in this fear for bodily objectification (Dickenson 2007) that the origin of the parents' grief and disquiet has to be sought. This concern cannot be taken care of simply by means of informed consent, but requires a genuine bioethics of the body that acknowledges the significance of embodiment as expressed in the lay view of the body.

The concern about bodily objectification also underlies the intense debate about non-beneficial pediatric research. Wendler tries to justify this bodily objectification by insisting on the non-clinical benefit of 'contributing to a valuable project'. Still, the question is whether we should understand children's bodily contribution necessarily in pure passive terms only. The body, in fact, is not just a thing in the world (body-object), but the condition of being a self at all (body-subject). We never only *have* our bodies, we *are* also our bodies. It is by focusing on this *constitutive* understanding of embodiment (*who* we are), rather than on children's causal contribution as *physical objects* (*what* they are), that we can open up the possibility for an ethically acceptable justification for non-beneficial clinical research with children. Children's bodies are expressive of *who* they are and this is why *they* can actively (and not merely causally) contribute to research *before* they can provide informed consent. Moreover, there is little or no need for them to be consciously aware of this constitutive aspect of embodiment. In fact, to most people, for most of the time the identification of body and person is an implicit belief which only becomes explicit in times of breakdown, like for example in the case of sickness (Leder 1990). Studies have shown for example that for children who have been diagnosed with chronical illnesses, the disease experience and the medical context may enhance their decision-making capacities and alter the way they live their own body (Brook 2000; Whitty-Rogers et al. 2009). These children usually have a heightened awareness of their body. This intensified apprehension may cause children to feel estranged from their bodies; but on the other hand this experience of dissociation also shows that they cannot "will away" their embodiment as nobody can be sick or dying in their place (Leder 1990; Burwood 2008). In this sense, being sick is almost a cruelly private experience which emphasizes that we are also vulnerable to our bodies (Burwood 2008). Thus, although in case of illness, the body no longer recedes from direct experience, but resurfaces into consciousness (Leder 1990), children (and also adults for that matter) are not necessarily aware of the *constitutive* aspect of their embodiment, even if the body is expressive of 'who' they are.

As long as it is recognized that children through their embodiment can contribute to research *as persons* their enrolment in non-beneficial clinical research can be ethically permissible. Wendler comes close to a similar conclusion when he states that child *participants* is a better term than child *subjects* because it highlights children's vital role in achieving the goals of research (Wendler 2010, p. 288). However, by understanding the body in pure physical and passive terms and focusing on the search for a non-clinical benefit for minimal research risks, he does not really rebut Ramsey's initial objection regarding bodily invasion.

We agree with Wendler that the inability to give informed consent does not imply the inability to contribute, but our view is also different from Wendler's as we do not focus on the fact that the risk that children face in research may be compensated for in non-clinical ways. That does not mean that we disregard the fact that children might be exposed to harm in research or that we deny that non-beneficial clinical research studies should—if possible—ask for children's assent or appeal to some kind of non-medical benefit to children. Still, we believe that they are not *enough* to rebut any categorical opposition to this type of research, and hence that it is necessary to take a step back and deal with the notion of bodily objectification. This is why we developed a pro-research argument which is grounded in a phenomenological and constitutive view of the body and vulnerability. Our claim is that children who participate in non-beneficial clinical research are *not necessarily* instrumentalized and their bodies are not automatically objectified as they *can* actively contribute to research through their body-subjects.

Conclusion: vulnerability as an ethical safeguard in non-beneficial pediatric research

The above described broadened understanding of vulnerability in terms of constitutive embodiment can only play a crucial role in the ethical debate concerning non-beneficial pediatric research if it is accompanied by a genuine bioethics of the body (Shildrick and Mykitiuk 2005) that acknowledges the importance of the embodied self. As the Alder Hey case shows, however, mainstream bioethics is still mainly dominated by an impersonal and objectified way of looking at the body which is far removed from the lay view on the body (Campbell 2009). As long as is this the case, there is little or no room for the constitutive embodiment argument. There is something tragic about this "triumph" of rationality in bioethics (Wolpe 1998) if one considers that the downplaying of the significance of the body has been in step with a increasing misunderstanding between the lay public and the medical community (Campbell 2009) and with an increasing mistrust of the institutions concerned with the ethical dilemmas of our day (O'Neill 2002).

Although the phenomenological approach offers a possible justification for non-beneficial pediatric research, taken alone it cannot determine whether or not to enrol a child in a particular research study. In fact, even if children can make meaningful contributions to research, even before they (legally) can give informed consent, the intimate connection between their body and person makes them vulnerable insofar as unwanted bodily violations may constitute a threat to their personal dignity. Hence, additional considerations should be taken into account and it is at this point that the will and best interest approaches come back in again. We should not forget that humans are always socially embedded and hence dependent upon others. This is particularly true for children who due to their age are vulnerable to the actions of those who care for them, but may not always act in their best interests. This recognition should keep us from enrolling children for the wrong reasons (monetary compensation, therapeutic misconception, better health care) because then we risk turning children into body-objects. For the same reason children should be cautioned against potential research harms and taken out of study when they manifest any kind of pain or distress. This also means that—in line with key documents and legislations in many countries that argue that children should be involved in decisions regarding their own health at a level congruent with their age and capacities—preference should be given to more mature children who can express their feelings and possible dissent with more ease than others. It also implies that potential risks should be minimal because exposing children to high risks would not be congruent with respecting their dignity.

The difficulty of the embodiment-approach to vulnerability is that there is no standard rule to determine the ethically permissibility of *concrete* non-beneficial pediatric research studies. Each study has to be judged *individually* because much depends on the type of research and on the particular characteristics and interpersonal relations of the children involved. Still, our aim was not to establish practical guidelines to determine the ethical soundness of each *individual* research study, but to oppose any *categorical* rejection against non-beneficial clinical research with children. For this purpose we did not primarily focus (as most authors do) on risks and benefits, but developed a pro-research argument which appeals to a phenomenological view on the body and vulnerability. Without such as justification, *any* non-beneficial clinical research study involving children (with or without an undue risk burden) would be morally objectionable from the start, compromising the research enterprise and the health of the overall pediatric population. The importance of our essay lies in offering additional support for the ethical permissibility of this kind of research *in se*.

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