Journal of Medicine and Philosophy, 38: 400–419, 2013
doi:10.1093/jmp/jht022

Procreative Altruism: Beyond Individualism in Reproductive Selection

THOMAS DOUGLAS*
University of Oxford, Oxford, UK

KATRIEN DEVOLDER
Ghent University, Ghent, Belgium

*Address correspondence to: Thomas Douglas, DPhil, Oxford Uehiro Centre for Practical Ethics, Littlegate House, St Ebbes Street, Oxford OX1 1PT, UK.
E-mail: thomas.douglas@philosophy.ox.ac.uk

Existing debate on procreative selection focuses on the well-being of the future child. However, selection decisions can also have significant effects on the well-being of others. Moreover, these effects may run in opposing directions; some traits conducive to the well-being of the selected child may be harmful to others, whereas other traits that limit the child's well-being may preserve or increase that of others. Prominent selection principles defended to date instruct parents to select a child, of the possible children they could have, likely to have a good (or nonbad) life, but they do not instruct parents to independently take the well-being of others into account. We refer to these principles as individualistic selection principles. We propose a new selection principle—Procreative Altruism—according to which parents have significant moral reason to select a child whose existence can be expected to contribute more to (or detract less from) the well-being of others than any alternative child they could have. We present the case for adopting Procreative Altruism alongside any of the major individualistic selection principles proposed to date and defend this two-principle model against a range of objections.

Keywords: *behavioral genetics, eugenics, genetic selection, preimplantation genetic diagnosis, procreative beneficence*

I. PROCREATIVE ALTRUISM: BEYOND INDIVIDUALISM IN REPRODUCTIVE SELECTION

Prospective parents sometimes face choices about what sort of children to have. This is most obviously the case in the context of in vitro fertilization (IVF), where parents can choose to make use of genetic information about their embryos to inform decisions about which of several embryos to implant to produce a child. But similar choices may also arise in natural reproduction. Parents can sometimes influence the characteristics of their children by altering the timing of conception. For example, a woman suffering from rubella can reduce the chance that her baby will be blind, deaf, and severely brain damaged by delaying conception until after the illness has resolved (Parfit, 1976), and in general, delaying reproduction increases the likelihood that the child will have Down's syndrome. We will refer to decisions about what sort of child to bring into the world, given that one will have a child, as *selection decisions*.[1]

In recent years, several authors have suggested ethical principles to guide selection decisions. For example, Julian Savulescu and Guy Kahane have advocated *Procreative Beneficence* (Savulescu, 2001, 2007; Savulescu and Kahane, 2009):

> If couples (or single reproducers) have decided to have a child, and selection is possible, then they have a significant moral reason to select the child, of the possible children they could have, whose life can be expected, in light of the relevant available information, to go best or at least not worse than any of the others. (Savulescu and Kahane, 2009, 247)

Suppose a couple has undergone IVF, as a result of which 10 embryos have been produced. In selecting which embryo(s) to implant, the parents could, let us assume, utilize preimplantation genetic diagnosis (PGD) to test for a range of genetic traits, ranging from single gene disorders to late-onset diseases and sex. According to *Procreative Beneficence*, the couple has significant moral reason to employ PGD and select the embryo whose genetic makeup will expectably give it the best life. This may involve, for example, selecting an embryo with a genotype conducive to good health, high cognitive abilities, and physical attractiveness.

Many critics of *Procreative Beneficence* claim that, in requiring parents to choose the child whose life can be expected to be *best*, it sets the bar too high. Some have suggested alternative, weaker procreative selection principles. These are summarized by Savulescu and Kahane (2009, 280–81) as follows:

The Minimal Threshold View: Prospective parents have significant moral reason to select a child expected to have *a life worth living* over any that is not (consistent with Robertson, 1994).

The Prevention of Harm View: Prospective parents have significant moral reason to select the child expected to experience least suffering or limited

opportunity or serious loss of happiness or good compared to the others (consistent with Shiffrin, 1999; Harman, 2004).

The Satisficing View: Prospective parents have significant moral reason to select a child who is expected to have a good enough life over any that is not (consistent with Parker, 2007).

II. THE WELL-BEING OF OTHERS

The selection principles outlined above all focus on the well-being of the selected child. For example, *Procreative Beneficence* instructs parents to choose the child that will expectably have the *best life*. The "best life" is to be understood as the best life *for the child*. Savulescu and Kahane write that:

> According to what we call the Principle of Procreative Beneficence . . ., couples who decide to have a child have a significant moral reason to select the child who, given his or her genetic endowment, can be expected to enjoy the most well-being (Savulescu and Kahane, 2009, 274).

To capture the fact that *Procreative Beneficence* focuses solely on the well-being of the selected child—not the well-being of others—we will refer to it as an individualistic selection principle. *The Prevention of Harm View*, *The Satisficing View*, and *The Minimal Threshold View* are also individualistic in this sense. They all focus on the well-being of the child to be selected, differing only in the level of well-being for which they instruct parents to aim in their selected child.

Of course, selection decisions can have significant effects on other persons. Most obviously, they may affect the well-being of the parents and any other siblings (Parker, 2007; Solberg, 2009). They could also have much more widespread effects, however (Elster, 2011). Indeed, there may be cases in which the sorts of traits that would be advantageous for a child to have would also be significantly *dis*advantageous for many other people.

Consider the following hypothetical case:

Free-Rider: A combination of genes that influences free-riding has been discovered. Those who possess this set of genes are, across a wide range of environmental contexts, predisposed to free-riding. They are, that is, more likely than average to violate socially beneficial norms of cooperation whenever doing so is to their own advantage. For example, they are more liable to renege on their promises when they know the breach will go undetected.

Now suppose a couple is undergoing fertility treatment combined with PGD. They can choose between two embryos, which will respectively give rise to Paul and Liza. PGD reveals that Paul has the genetic predisposition to free-riding, but Liza does not. It can be expected, let us stipulate, that, though both will enjoy good lives, Paul's life will contain somewhat more well-being than Liza's, but that Liza, being less disposed to free-riding, will contribute much more to the well-being of others than Paul.[2]

Abstracting from any other information about the genetic predispositions of Paul and Liza, it seems plausible that the couple has significant reason, though not necessarily a decisive reason, to select Liza rather than Paul. This reason is, however, not adequately captured by any of the selection principles considered above. Since Paul's life is expected to contain more well-being than Liza's, *Procreative Beneficence* militates in favor of selecting Paul. Meanwhile, the *Satisficing*, *Minimal Threshold*, and *Prevention of Harm Views* all give no guidance on which child to select.[3]

One way of capturing the intuition that the parents have significant reason to select Liza would be to adopt the following principle:

Procreative Altruism: If couples (or single reproducers) have decided to have a child, and selection is possible, they have significant moral reason to select a child whose existence can be expected to contribute more to (or detract less from) the well-being of others than any alternative child they could have.[4]

Since Liza's existence can be expected to contribute more to the well-being of others than Paul's, *Procreative Altruism* will imply that parents have significant moral reason to select Liza rather than Paul.

Procreative Altruism clearly does not capture all of the moral considerations that bear on selection decisions. But it may capture one consideration that is neglected by existing selection principles. It could be adopted as a supplement to any of the individualistic selection principles suggested above. In what follows, we argue for supplementing individualistic selection principles in this way. More precisely, we argue that the conjunction of any of the abovementioned individualistic principles with *Procreative Altruism* will yield a pair of principles that is superior, as a principled basis for making selection decisions, to the individualistic principle alone. First, however, we should offer some clarifications.

III. CLARIFICATIONS

Selection Principles as Practical Guides

Individualistic principles, we assume, are not intended merely as criteria for the post hoc assessment of selection decisions or as guides to action that might be applied by morally ideal agents under idealized conditions. Rather, they are intended (at least in part) as principles that actual people in actual circumstances ought to employ when faced with selection decisions. They are intended to provide a *practically workable* principled basis for making selection decisions.

Similarly, our proposal that individualistic principles be supplemented with *Procreative Altruism* is made in the spirit of offering a practically workable set of principles. Our claim is that the conjunction of any individualistic selection principle and *Procreative Altruism* provides a *superior practical basis* for making selection decisions. One relevant consideration in assessing

this claim is whether *Procreative Altruism* is true or correct—whether there really are moral reasons to select children whose existence will contribute more to (or detract less from) the well-being of others. But note that this is only one of several relevant considerations. Also relevant are various pragmatic considerations concerning how easily and effectively *Procreative Altruism* could be applied in practice. Much of our discussion will focus on these issues.

The Content of *Procreative Altruism*

Procreative Altruism holds that, in making selection decisions, parents have significant moral reason to promote the well-being of others. We leave it somewhat open who should be included in the category *others*. We assume that this category includes all currently existing people as well as those who will exist in the future. We also assume that it does not include individuals whose existence depends on the selection decision, such as the possible future children of the selected child. (This, we hope, should render the principle acceptable to those who believe that the only moral reasons are reasons to benefit, or not to harm, fixed individuals.) However, we do not specify whether it should include animals and other sentient beings.

In addition, we leave unspecified how the contribution of a particular child to the well-being of others is to be quantified. There are many "others" whose well-being might be affected by a selection decision, and there are genuine and interesting questions on how the effects on different individuals should be combined into an overall measure of contribution to (or detraction from) the well-being of others.

Finally, we leave open the question whether parents have stronger reason not to harm others than to benefit others through their selection decisions. Suppose that the existence of child *A* would overall benefit others to degree *x*, the existence of child *B* would overall neither harm nor benefit others, and the existence of child *C* would overall harm others to degree *x*. Some might argue that the parents have a strong reason to select *A* or *B* in preference to *C* but only a weak reason to select *A* in preference to *B*. We take no view on this, except to maintain that the reason to select *A* in preference to *B* is significant; the parents' reason to benefit others is significant, even if their reason not to harm others is more powerful.

The Balance between *Procreative Altruism* and Individualistic Selection Principles

We will defend the view that individualistic principles should be supplemented with *Procreative Altruism*; however, we will not offer a view on the relative weighting of *Procreative Altruism* and the individualistic principle with which it is paired. That is to say, we leave unspecified the relative

strength that should be assigned to the reasons cited by *Procreative Altruism* and the individualistic selection principle with which it is coupled.

One complication here is that selection decisions cannot harm the future child in the same way that they may harm others. Selection decisions cannot harm the selected child in the sense of making that child's life go worse than it would otherwise have gone, because if the parents had chosen differently, the child would not have existed. Nor can selection decisions harm the selected child in the sense that they make that child's life go worse than it was going before, since at the time the selection happens the child does not yet exist.[5] Selection decisions involve choosing between different possible alternative children with different expected levels of well-being. They do not alter the well-being of a given child relative to their previous situation, or the situation that would otherwise have obtained. They are not *person-affecting*. By contrast, selection decisions can harm others in the sense of making their lives go worse than they would otherwise have gone. They can also harm others in the sense of making their lives go worse than before. They are person-affecting. Because it is often thought that person-affecting reasons are the strongest moral reasons, it might be thought that the reasons cited by *Procreative Altruism* will typically be stronger than the reasons cited by individualistic selection principles.

On the other hand, it might be argued that the reasons cited by *Procreative Altruism* will typically be *less* powerful than the reasons cited by individualistic selection principles, since parents have special obligations toward their children that they do not have toward others. This is why, for example, a parent who neglects to feed her child plausibly commits a more serious wrong than one who neglects to feed a hungry stranger. It is, however, unclear whether the standard kinds of parental obligations—obligations to care for one's children—have any bearing on selection decisions, because at the time a selection decision is made the prospective parent is not yet in a relation of parenthood with the future child. Moreover, it is unclear whether it is conceptually possible to *care* for a future child by bringing it into existence. However, it remains somewhat plausible that parents have special reasons or obligations in respect of their future children, perhaps because they *will* care for their future child and *will* have a special relationship with it.

We do not attempt to resolve these complications here. In arguing that individualistic selection principles should be supplemented with *Procreative Altruism*, we are maintaining that parents should take themselves to have significant reason to promote the well-being of others through their selection decisions. However, we offer no view on whether these reasons are, or should be regarded as, more or less powerful than those cited by individualistic principles.

The Possible Need for Further Principles

Individualistic principles have not been defended as exhaustive principles: they are not taken to capture all of the moral considerations bearing on

selection decisions. They identify some significant moral reasons that parents faced with selection decisions are said to have, but they do not preclude the existence of competing reasons. Thus, for example, Savulescu and Kahane point out that the reasons captured by *Procreative Beneficence* may sometimes be outweighed by other reasons, such as reasons not to engage in IVF or PGD, or reasons to advance the welfare of the parents or their existing children (Savulescu and Kahane, 2009, 278). Because individualistic principles are not taken to be exhaustive, those who defend them are not committed to rejecting our claim that these principles should be supplemented with *Procreative Altruism*.

Similarly, we do not claim that the conjunction of an individualistic selection principle with *Procreative Altruism* will exhaust the moral considerations bearing on selection decisions. There may be further considerations. Both individualistic selection principles and *Procreative Altruism* focus on the value of well-being—either of the selected child or of others—but selection decisions could also influence other kinds of value. For example, selecting children with certain genetic dispositions may tend to promote a fair distribution of resources, the production of great art, and the protection of the environment, all of which may have value independent of their effects on anyone's well-being. Perhaps parents also have reasons to promote these values in making selection decisions. If so, then supplementing individualistic selection principles with *Procreative Altruism* may be only the first of several amendments that should be made to our principled basis for making selection decisions.

IV. THE CASE FOR SUPPLEMENTING INDIVIDUALISTIC SELECTION PRINCIPLES WITH PROCREATIVE ALTRUISM

In this section, we present the case for supplementing individualistic selection principles with *Procreative Altruism*. In doing so, we simply assume that one of the individualistic principles mentioned above should be adopted.[6] We take these individualistic selection principles as a starting point and argue that, for any of these principles, the conjunction of that principle and *Procreative Altruism* provides a principled basis for making selection decisions that is superior to the individualistic principle alone. We do not consider the possibility of adopting neither an individualistic principle nor *Procreative Altruism*. For ease of exposition, we will sometimes refer to the conjunction of an individual principle with *Procreative Altruism* as the "two-principle model."

The principal reason for preferring the two-principle model to an individualistic principle alone is that it is more comprehensive: it captures a genuine moral consideration that bears on selection decisions that is not captured by individualistic selection principles. That consideration is, of

course, the moral reason that parents have to protect and promote the well-being of others through their selection decisions.[7] Why think that such a reason exists? First, there are some cases, such as our *Free-rider* case above, in which the existence of this reason is supported by reflective intuitions. It seemed intuitively plausible, in the *Free-rider* case, that the parents had a significant moral reason to select Liza, who would expectably contribute more to the well-being of others, than to select Paul, who would expectably contribute less.

Second, the view that parents have moral reason to protect and promote the well-being of others through their selection decisions is supported by the plausible view that people *in general* have moral reasons to promote and protect the well-being of others through their actions. Indeed, the existence of such reasons is recognized in relation to parental decision-making contexts that are somewhat related to those of genetic selection. It is generally thought that parents should raise their children not merely to have lives containing enough/much well-being but also to contribute to the well-being of others.[8] For example, it is widely thought that parents should encourage moral sensitivity in their children. Many also think that they should inculcate certain values or moral beliefs into their children through punishing harmful behavior and rewarding beneficent behavior. Accepting *Procreative Altruism* would be a natural way of extending these commonsense views about good parenting into contexts of procreative selection. Of course, bringing up children well is and will remain the primary way in which parents ensure that their children develop traits that contribute to the well-being of others. However, selection decisions may serve as a useful adjunct to these practices.

The greater comprehensiveness achieved by supplementing individualistic selection principles with *Procreative Altruism* provides the primary reason for adopting the two-principle model. But in the case of one particular individualistic selection principle—*Procreative Beneficence*—there is a further reason. *Procreative Beneficence* has been criticized for being self-defeating. It has been argued that by aiming to have children whose lives can be expected to contain the most well-being, we will in fact cause them to have less well-being (Parker, 2007). The two-principle model is less susceptible to this objection.

There are at least two variants of the self-defeatingness objection. The first claims that the parental focus on the well-being of the selected child is likely to continue after the child is born, leading to overbearing parenting that will actually make the child's life worse. Even if this is plausible as an objection to *Procreative Beneficence*, it seems doubtful whether a similar concern directed against the conjunction of *Procreative Beneficence* and *Procreative Altruism* would be persuasive, because parents aiming to satisfy this pair of principles would be focused not only on the well-being of their child but also on that of others.[9] An exclusive focus on any one individual's well-being would thus be avoided.

The second version of the objection points to a potential collective action problem. If all prospective parents attempt to maximize their own future child's well-being, for example by selecting a taller child, then the well-being of their children will in fact not increase. This is because height is a positional good: it is being tall *relative to others* that confers well-being, not being tall in an absolute sense. And relative height will not change if all parents select for greater height. Moreover, the increase in absolute height may tend to *reduce* well-being, because, for example, taller people will have more trouble living in existing buildings and may be more likely to suffer certain medical conditions, for example, due to increased strain on the heart. In relation to height and other positional goods, it might be better for all children if parents could agree *not* to maximize their own child's well-being. The conjunction of *Procreative Beneficence* and *Procreative Altruism* is less susceptible to this version of the objection too, because it attaches some weight to the harms imposed on others by selecting for a positional good in one's own child.[10]

V. OBJECTIONS

We have set out the positive case for supplementing individualistic selection principles with *Procreative Altruism*. We now turn to consider some objections to adopting this two-principle model. As in presenting the positive case for that model, we focus on the comparison between adopting an individualistic principle alone and adopting the conjunction of that principle and *Procreative Altruism*. Thus, our question in this section is whether there are respects in which the conjunction of an individualistic selection principle and *Procreative Altruism* would be *inferior* or at least not superior to the individualistic principle alone as a principled basis for making selection decisions. We do not consider arguments for eschewing both individualistic principles and *Procreative Altruism*. Arguments in that category include concerns about violating the autonomy of the future child and harming or expressing objectionable attitudes toward existing people with disabilities. Also in this category are arguments based on the worry that different lives are frequently incommensurable in value.

Practical Applicability

An initial and potentially serious objection to supplementing individualistic selection principles with *Procreative Altruism* holds that, given moral uncertainty and the complex relationships between genes and traits, and between traits and well-being, the resulting pair of principles could not, in practice, yield any determinate guidance. It would in practice be impossible to determine what selection decision best complies with that pair of principles.

The most likely context in which the two-principle model might be applied is that of IVF, where parents have produced a number of embryos and may

decide which to implant on the basis of information from genetic tests on these embryos. This information may, in the future, be considerable. There are already means of screening whole genomes for a range of possible genetic predispositions, mainly for single gene diseases and for some other physical traits such as sex. It is to be expected that in the not-too-distant future it will be possible to test for many more genetic predispositions.

The task faced by parents seeking to apply the two-principle model would presumably be to predict the likelihood of a range of traits, given the genetic information available to them, and to evaluate at least some of these traits in light of their expected effects on the well-being of the future child and on that of others. At least five serious difficulties will complicate this task.

First, our genetic knowledge is, and will remain, incomplete. The genetic contributions to most traits with significant effects on well-being are not well, and in most cases not at all, understood. Genetic testing will thus provide only a very limited basis for making predictions about what traits a given child is likely to possess.

Second, even where the genetic contribution to a given trait is well understood, this will rarely allow a determination of whether or to what extent the selected child will possess that trait. This is because whether a trait will be expressed depends largely on environmental factors.

Third, the effects of a given trait on the well-being of its possessor and others will also depend on the environment. Thus, in a society that is threatened by extinction, promiscuity might be conducive to the well-being of others, but perhaps it is not in a flourishing society whose good functioning depends on stable family structures. The social role of the person possessing the trait may also be important. For example, compassion may be conducive to the well-being of others when expressed in a parent, but perhaps not when expressed in a judge. Similarly, violent aggression may conduce to the social good in a soldier engaged in a just war, but not in one engaged in an unjust war.

Fourth, the well-being effects of a given trait will also depend on what other traits accompany it. Thus, for example, competitiveness may conduce both to the well-being of the competitive individual and to that of others when associated with high cognitive or physical abilities, because it may then motivate great achievements, but it might have the opposite effects when associated with low levels of ability, because it might then lead to frustration, apathy, or depression.

Finally, fifth, reasons to select a child with a higher level of well-being will have to be balanced against reasons to select a child who will contribute to the well-being of others. The relative strength of these reasons will depend on what theory of morality is correct. Attempts to balance the reasons will thus be plagued by *moral uncertainty*—uncertainty about what the correct theory of morality is.

These difficulties place some significant constraints on how the two-principle model might be applied. For example, since environment plays a role in determining both a person's traits and the level of well-being that given traits confer, parents would only be in a position to confidently select a child with a given level of well-being if they could confidently predict or determine the child's future environment. Clearly, this will never be the case. Moreover, the interaction between different traits in determining well-being means that parents could only confidently select a child with a certain level of well-being if they could ascertain the whole package of genetic predispositions that the child would have. Again, however, this is not, and will not soon be, possible. Given restricted knowledge of genetics and the limited number of embryos that can be created using IVF, parents are unlikely, at least in the near future, to be capable of selecting for or against more than a small number of genetic predispositions. The most realistic scenario, then, will be one in which parents focus on one or a few traits and can exert only a statistical influence on those traits. Other genetic predispositions, and the child's future environment, will have to be taken as a fixed background against which to make this choice. Parents should, of course, attempt to make realistic assumptions about what this fixed background is likely to be. In other words, they should pay heed to the likely prevailing social and natural circumstances, as well as to any information they have about any of the child's fixed genetic predispositions (i.e., the predispositions that they are not in a position to influence). This may make genetic selection decisions rather complicated and susceptible to chance. However, it does not render the two-principle model completely inapplicable. Parents can still form expectations and act on the information they have, however limited that information is.

In any case, these difficulties are, for the most part, not specific to attempts to apply the two-principle model: most would also be raised by attempts to apply an individualistic principle alone—this would also require parents to take into account complex relationships among genes, environment, traits, and well-being. Admittedly, there are certain difficulties that would be peculiar to the two-principle model: difficulties in identifying effects on the well-being of *others*, and difficulties in balancing "individualistic" and "altruistic" considerations. However, there is some reason to think that these difficulties are surmountable. We think this can be seen by considering the state of virtue theory, which has had to address similar difficulties. Virtue theory can be viewed as the branch of ethics that is concerned with evaluating character traits, or sets thereof. One of its tasks is to determine which character traits are good (the virtues) and which are bad (the vices). The idea is typically that virtues are both good for their possessor and conducive to the well-being of others, and that they achieve the right balance between these two considerations. The challenges faced by virtue theorists are thus not so far removed from the task that would be faced by parents seeking to identify and balance the effects that various traits might have

on the well-being of their child and on that of others. Indeed, insofar as prospective parents are assessing the possible *character* traits of their possible future children, their task very closely mirrors the task that has been confronted by virtue theorists.

Virtue theory, of course, is marked by significant disagreement. But much of this disagreement surrounds the question of how to give a *unified account* of virtue. There is, in fact, substantial agreement about which character traits are virtuous, and which vicious. For example, there would be significant agreement that fairly high levels of empathy, imagination, and practical reasoning ability are virtues across a wide range of circumstances, whereas high levels of deceitfulness, manipulativeness, or closedmindedness are typically vices. Thus, if parents applying an individualistic selection principle and *Procreative Altruism* were in a position to select for or against character traits, they would not be completely at a loss as to what to do: they could draw on virtue theory and select for predispositions to traits widely thought to be virtues and against predispositions to traits widely thought to be vices.

As mentioned earlier, it will not be possible in the near future, if ever, to select for or against complex psychological traits like character traits. But parents may, in the foreseeable future, be able to select for (or against) predispositions to a number of simple psychological or physical traits. The measure of agreement on the virtues and vices gives us reason to hope that some agreement could also be reached regarding which simpler traits are likely, given prevailing circumstances and likely accompanying traits, to conduce to (or not detract from) the well-being of their possessor and that of others, and in the right balance. This information could then serve as a guide for parents seeking to apply the two-principle model.

Of course, the most obvious and immediate aim for parents seeking to apply that model would be to select against traits that have serious negative effects on both the well-being of their possessor and the well-being of others. We do not wish to commit ourselves to any claims about what traits these might be: our point is merely that it should be possible to identify some such traits. However, speculatively, diseases that both cause significant pain and suffering *and* create large burdens or costs for society would be plausible candidates. Diabetes, substance abuse disorders, and schizophrenia might be examples. Other traits that the two-principle model might require parents to select against would include conditions that perhaps have no negative effects on the well-being of their possessor though they have serious costs for society (perhaps some variants of psychopathy), or conditions with less social impact but large costs for the individual (perhaps conditions causing chronic pain).[11]

Demandingness and Mistakes in Application

Even if the conjunction of *Procreative Altruism* and an individualistic selection principle *could* be applied in practice, it might be argued that,

due to the complexities outlined above, such a pair of principles ought not to be applied. At least two concerns might be adduced in support of this claim.

The first concern is that the two-principle model is simply too demanding—it would place too great a decision-making burden on parents. The second concern is that attempts to apply the model are likely to be plagued by mistakes, given the complex and poorly understood relationship between genes and traits, and between traits and well-being.

Similar concerns have been raised, and considered quite serious, in relation to at least some individualistic selection principles. For example, *Procreative Beneficence* has been criticized on the basis that aiming for the best possible child would require too much effort from and place too much pressure on the parents (Sandel, 2004; Glover, 2006, 51). However, the concerns might be thought even more serious in relation to the two-principle model that we are advocating, for the required deliberations are even more complex here. Parents must consider not only the well-being of their child but also that of others, and the relative weight to be attached to each. To make things worse, in confronting this deliberative burden, parents may be less motivated by strong natural inclinations than had they been applying an individualistic principle alone. Most prospective parents care deeply about the well-being of their future child. Their motivations may thus be closely aligned with individualistic principles. But parents may care less about the well-being of others. Indeed, to the extent that the two-principle model requires parents to trade off the well-being of the child for that of others, it may require them to override their natural inclinations.

Although it is true that applying our two-principle model would be difficult, and therefore also susceptible to error, it is hard to see why this would be a decisive argument against *attempting* to apply it. After all, the deliberations that applying the model would require may be no more complex than those we already expect parents to engage in when deciding, for example, to what school to send their children, whether to expose their children to religion, and what approach to take with child discipline. Arguably, to make morally justifiable decisions in these areas, parents need to take into account, even if not always consciously, both the well-being of their own child and the well-being of others. (For example, in school choice, parents should take into account the effect of sending one's child to a private school on children from lower social classes.) Moreover, in these contexts, as in the case of procreative selection governed by our two-principle model, parents may sometimes need to act against their natural inclinations. One reason why it is nevertheless reasonable to expect parents to make these choices—and to try to get them right, morally speaking—is that we do not expect all considerations to be explicitly identified and weighed. To some extent, we find it appropriate for parents to rely on intuitions or heuristics. After all, just as parents have

reasons to make good decisions about the upbringing of their children, they also have reasons not to spend all of their time engaged in complex moral deliberations or in informing themselves about recent relevant psychological discoveries. The same would apply to attempts to apply our two-principle model.

Redundancy

Another possible objection to our two-principle model maintains that applying it would yield the same selection decisions as would applying an individualistic principle alone, because traits conducive (detrimental) to the well-being of their possessor are typically also conducive (detrimental) to the well-being of others. Thus, for example, just as parents applying the conjunction of *Procreative Beneficence* and *Procreative Altruism* might wish to select against diseases like schizophrenia or severe cognitive disability, so too might parents applying *Procreative Beneficence* alone, since these conditions typically reduce the well-being of those who suffer them.

Note, however, that many of the most likely *priorities* for parents applying the two-principle model would not be *priorities* for parents applying individualistic principles alone. Whereas parents seeking only to safeguard the well-being of their future child will be most interested in selecting against diseases that cause the greatest pain and suffering or that most significantly shorten life, parents applying the two-principle model will also take into account the effects of diseases on others. Likely targets will then include traits or diseases that may cause somewhat less suffering or reduction in life expectancy but that require costly treatment or typically involve behavior that is harmful for others.

In addition, there may well be cases in which the two-principle model would recommend decisions diametrically opposed to those recommended by an individualistic selection principle alone. Consider the case of sex selection. Suppose that a couple lives in a society where significant discrimination against women is the norm, so that the lives of men typically contain more well-being than those of women. At least one individualistic selection principle, *Procreative Beneficence*, would support the selection of a male child in these circumstances, because boys can be expected to enjoy greater well-being than girls. On the other hand, *Procreative Altruism* may militate in favor of selecting a female child, because doing so might help correct the sex ratio (assuming that many others will select for boys) and might also be expected to help undermine sexist attitudes by sending the message that girls are valuable, too. In this circumstance, it is unclear what the two-principle model would recommend, but if the social benefits are high, and altruistic considerations assigned great weight, then it is likely to also favour selecting a female child. That is, it is likely to recommend the opposite decision to *Procreative Beneficence*.

Using Your Future Child as a Means to Benefit Others

Some may object to our two-principle model on the ground that it—or at least one element in it (*Procreative Altruism*)—implies that parents should use their future child as a means to promoting the good of others. The two-principle model could instruct parents to select children with traits that restrict the well-being of the future child, because doing so will promote the well-being of others. This may seem to be an objectionable form of exploitation or instrumentalization.

Importantly, however, the two-principle model does not imply that parents should treat their future child *merely* as a means to promoting the good of others. Indeed, it requires that parents give some weight to the well-being of the future child. It does stipulate that other ends also play a role in reproductive decision making. But this seems appropriate. It is not clear why the well-being of the future child should be allowed to monopolize reproductive decision making. Indeed, it is widely accepted that parents may permissibly appeal to other considerations. For example, most would accept that it is permissible for parents to have a child *in part* to bring greater fulfillment to their own lives or provide a companion for an existing child, provided that they also respect the future child as an end in itself.

At this point, it might be objected that the problem with the two-principle model is not merely that it allows considerations other than the well-being of the future child to play a role in selection, but that it allows them to play a particularly problematic kind of role: it implies that the well-being of others should be *weighed against* the well-being of the future child. Some object to trading off the well-being of one person against that of another. They object, that is, to allowing a loss in well-being suffered by one individual to be offset by a gain in well-being enjoyed by another. It is often said that such trade-offs fail to take the separateness of persons seriously (Rawls, 1971, 27; Nozick, 1974, 32–3).

It is not clear that this worry has any place in the context of genetic selection, because it is not clear that, in the relevant sense, one can trade off the well-being of one individual against that of others *by deciding whether to bring that individual into existence*. However, even if this is possible, such trading-off need not be required by our two-principle model. That model specifies that both the well-being of the future child and that of others play a role in determining which traits should be selected. But it does not specify precisely *how* these two categories of well-being combine to determine which traits should be selected. The picture could be one in which the two types of well-being are weighed against one another. But it need not be. For example, although we would not wish to defend such a position, our model is quite consistent with the view that the well-being of the future child is a lexically dominant consideration or "trump card." If that were so, then individualistic reasons would always defeat altruistic ones, though the latter

might nevertheless be significant and might serve as tie-breakers when two or more candidate children could be expected to enjoy equally good lives. On this approach, there is no sense in which the well-being of the future child is traded off against that of others.

Concerns about Eugenics

A concern that has been raised about individualistic selection principles, and that may apply more strongly to our two-principle model, is that they are eugenic, or are dangerously close to being so.

The straightforward version of this objection maintains that any attempt to implement some individualistic selection principle would from the outset constitute a problematic form of eugenics. However, this is implausible: the best explanations of what was wrong with immoral cases of eugenics are that they involved coercion, and were motivated by objectionable moral beliefs or false nonmoral beliefs (Buchanan, 2007). This would not necessarily be the case were individualistic selection principles to be implemented now. It is certainly not what the proponents of these principles have in mind. The values central to their selection theories, including increased autonomy and the prevention of suffering, are diametrically opposed to the values central to immoral eugenics programs in the past.

A more plausible version of the eugenics objection points out the risk of a slippery slope: the claim is that applying individualistic selection principles now would lead to objectionable forms of eugenics—for example, coercive eugenics—in the future. After all, historical cases of immoral eugenics often developed from earlier well-intentioned and less problematic practices.

The same objection could be adduced against our two-principle model and would perhaps be more plausible there, because it is easier to see how governments or society at large could have incentives to force parents to comply with this model, given the social benefits that would follow from the application of *Procreative Altruism*.

The concern about a slippery slope to immoral eugenics, we believe, should be taken seriously. It may well constitute a decisive objection to adopting our two-principle model, particularly in certain illiberal societies. However, in most liberal democracies, reproductive autonomy is firmly entrenched in both the law and the prevailing psyche. Parental autonomy is also secure in the context of moral education. Parents are given great freedom to influence the moral character of their children, even though more restrictive policies, as in genetic selection, could potentially bring social benefits. Given this, one might question whether governments in liberal democracies would be prepared to restrict reproductive autonomy in order to increase compliance with the two-principle model.

Of course, even if the two-principle model would not be legally enforced, prospective parents could still feel pressure to follow it because, say, it is

widely endorsed, including by the government. Would such social pressure be a bad thing? Some degree of soft coercion seems permissible when it is likely to prevent harm to others. The question is whether we could expect there to be *too much* soft coercion to comply with the two-principle model. Again, a comparison with parenting practices is somewhat reassuring; it is doubtful whether liberal societies have created *too much* pressure on parents to bring up their children responsibly.

However, notwithstanding these reassuring thoughts, steps may need to be taken to ensure that reproductive autonomy remains as secure in the future as it is at present. Moreover, we cannot rule out the possibility that, even with additional protections, adopting the two-principle model would simply create too great a threat of unjustified restrictions on reproductive autonomy, whether due to legal prohibitions or social pressure. This is not a matter that we can settle here. Indeed, it is not one that could be settled by philosophers alone. It appears to require, for example, a detailed engagement with the history of eugenics.

VI. CONCLUSION

Prominent selection principles defended to date instruct prospective parents to select for traits conducive to the well-being of the selected child, but do not instruct them to independently protect or promote the well-being of others through their selection decisions. We have called these principles *individualistic* selection principles. We propose that, if one should adopt an individualistic selection principle, one should also adopt a further principle, *Procreative Altruism*. This new selection principle instructs parents to select children whose existence can be expected to contribute more to (or detract less from) the well-being of others than any alternative child. Thus, the conjunction of any individualistic selection principle and *Procreative Altruism* brings both the well-being of the future child and that of others to bear on selection decisions.

Our two-principle model has the advantage of capturing a wider range of moral considerations that bear on selection decisions than any of the individualistic principles alone. In the case of one individualistic principle—*Procreative Beneficence*—moving to the two-principle model also has the advantage of mitigating concerns about self-defeatingness. We believe, then, that there are good reasons to prefer the conjunction of any individualistic selection principle with *Procreative Altruism* to the individualistic principle alone.

Given moral uncertainty and the complex relationships between genes, environment, personal traits, and well-being, the two-principle model would be difficult to apply. However, we have argued that it would nevertheless be workable and not so demanding or prone to error that parents should not

even *attempt* to apply it. We also rejected the suggestions that *Procreative Altruism* is redundant and that it implies that parents should treat their future children merely as means.

There are legitimate concerns, however. Fears about a slippery slope to immoral eugenics should be taken seriously. These worries may create a need for further institutional measures to safeguard parental autonomy before our two-principle model is adopted. Moreover, we cannot rule out the possibility that even additional safeguards would be inadequate to prevent a slippery slope to unjustified restrictions on reproductive autonomy, though we have highlighted some reasons for optimism.

NOTES

1. We do not consider decisions about whether to have a child, though we recognize that much of what we will say may have implications for these decisions too.

2. Some theories of well-being might imply that if Liza contributes to the well-being of others more than Paul, then necessarily she enjoys more well-being herself. On these theories, the good life for an individual is the life that contributes to the well-being of others. However, such theories are controversial. At the very least, there is uncertainty regarding their correctness. Thus, it seems worthwhile considering cases like this one, in which individual well-being does not perfectly track contribution to the well-being of others.

3. For a similar but less high-tech case, consider the following. Suppose that were a couple to have a child at a young age rather than an older age, their child could be expected to have a life containing less wellbeing (say, because the parents would have less financial stability) but to contribute more to the well-being of others (say, because the child would begin to work and pay taxes sooner). Here, it might seem that the parents have at least some reason to have the child earlier, but this is not captured by any of the individualistic selection principles. Indeed, Procreative Beneficence would militate in favour of the opposite decision.

4. For an earlier formulation of this principle, see Douglas et al. (2010). Jakob Elster (2011) has suggested a similar selection principle, which he calls *General Procreative Beneficence*. *General Procreative Beneficence* holds that couples (or single reproducers) have a significant moral reason to select the child whose life will maximize the expected overall value in the world. Like *Procreative Altruism*, this principle implies that parents have reason to contribute to the well-being of others through their selection decisions. However, it goes beyond *Procreative Altruism* in maintaining that they also have reasons to realize further values—values that do not consist in the well-being of individuals. For example, if environmental diversity has intrinsic value, then *General Procreative Beneficence* will imply that parents have reason to select children likely to contribute to such diversity. The broader scope of *General Procreative Beneficence* may make it more controversial than *Procreative Altruism*. It is more widely accepted that people have reasons to contribute to the well-being of others than that they have reasons to contribute to other kinds of intrinsic value, such as environmental values. Nevertheless, *General Procreative Beneficence* would also capture the intuition that the parents, in our example, have significant moral reason to select Liza rather than Paul. A third way of accounting for this intuition would be to appeal to the idea that parents have significant reasons to select an expectably more *virtuous* child, since it is plausible that Liza can be expected to be more virtuous than Paul. However, there may be other cases in which we intuitively have good reason to benefit others through selection decisions even where this is not a question of virtue. This is nicely illustrated by an example of Elster (2011). Elster suggests that we have good moral reason to select a child with a blood group that makes it a universal donor, rather than a child with a blood group that makes it a universal recipient. The universal donor child can be expected to contribute more to the well-being of others than the universal recipient child, though not because she can be expected to be more virtuous.

5. If one believes that the early embryo is identical with the future child it will become and if the selection takes place by selecting between embryos, then the selected child does exist at the time the selection takes place, but in most cases it will still be implausible to suggest that by selecting a particular

child one makes that child's life go worse than it was going before. Before the selection, the child was an unconscious embryo that plausibly has no well-being.

6. We henceforth use "individualistic selection principles" to refer only to *Procreative Beneficence*, *The Prevention of Harm View*, *The Satisficing View*, and *The Minimal Threshold View*, not to further principles that would also focus on the well-being of the future child.

7. For discussion of the other-regarding reasons bearing on selection decisions, see Faust 2008, Walker 2009, Douglas et al. 2010, and Elster 2011.

8. The same point is made by Elster (2011).

9. We do not mean to imply that the concern about overbearing parenting *is* a persuasive objection to *Procreative Beneficence* alone. The concern relies on the questionable empirical speculation that a focus on the well-being of the future child at the time of selection will often continue after birth and lead to overbearing parenting.

10. Admittedly, to the extent that the well-being of the selected child is attached more weight than the well-being of any other individual, the conjunction of *Procreative Beneficence* and *Procreative Altruism* could still lead parents to select for positional goods in their children.

11. It is worth noting also, that not all selection decisions involve genetic information. As noted earlier, decisions about the timing of reproduction can also be regarded as selection decisions.

ACKNOWLEDGMENTS

We thank, for their comments on a draft of this article, Guy Kahane, Nick Bostrom, Ingmar Persson, Matthew Liao, Justin Oakley, two anonymous reviewers for the *Journal of Medicine and Philosophy*, and audiences at Bioethics Institute Ghent and the Universities of Twente, Delft, and Otago. Katrien Devolder received funding from the Research Foundation-Flanders. Thomas Douglas received funding from Christ Church College, University of Oxford and the Wellcome Trust (grant number WT087211).

REFERENCES

Buchanan, A. 2007. Institutions, beliefs and ethics: Eugenics as a case study. *Journal of Political Philosophy* 15:22–45.

Douglas, T. 2008. Moral enhancement. *Journal of Applied Philosophy* 25:228–45.

Douglas, T., R. Powell, K. Devolder, P. Stafforini, and S. Rippon. 2010. Resisting Sparrow's sexy reductio: Selection principles and the social good. *American Journal of Bioethics* 10:16–18.

Elster, J. 2011. Procreative beneficence—Cui bono? *Bioethics* 25:482–88.

Faust, H. S. 2008. Should we select for genetic moral enhancement? A thought experiment using the MoralKinder (MK+) haplotype. *Theoretical Medicine and Bioethics* 29:397–416.

Glover, J. 2006. *Choosing children*. Oxford: Oxford University Press.

Harman, E. 2004. Can we harm and benefit in creating? *Philosophical Perspectives* 18:89–113.

Nozick, R. 1974. *Anarchy, State, and Utopia*. New York: Basic Books.

Parfit, D. 1976. Rights, interests and possible people. In *Moral Problems in Medicine*, eds. S. Gorovitz, A. L. Jameton, R. Macklin, J. M. O'Connor, E. V. Perrin, B. P. St. Clair, and S. Sherwin, 369–75. Englewood Cliffs, NJ: Prentice-Hall.

Parker, M. 2007. The best possible child. *Journal of Medical Ethics* 33:279–83.

Parsian, A., C. R. Cloninger, R. Sinha, and Z. H. Zhang. 2003. Functional variation in promoter region of monoamine oxidase A and subtypes of alcoholism: Haplotype analysis. *American Journal of Medical Genetics* 117:46–50.

Rawls, J. 1971. *A Theory of Justice*. Cambridge, MA: Belknap Press.

Robertson, J. 1994. *Children of Choice: Freedom and the New Reproductive Technologies*. Princeton, NJ: Princeton University Press.

Sandel, M. 2004. The case against perfection: What's wrong with designer children, bionic athletes, and genetic engineering? *Atlantic Monthly* 292:51–62.

Savulescu, J. 2001. Procreative beneficence: Why we should select the best children. *Bioethics* 15:413–26.

———. 2007. In defense of procreative beneficence. *Journal of Medical Ethics* 33:284–88.

Savulescu, J. and G. Kahane. 2009. The moral obligation to create children with the best chance of the best life. *Bioethics* 23:247–90.

Shiffrin, S. 1999. Wrongful life, procreative responsibility, and the significance of harm. *Legal Theory* 5:117–48.

Solberg, B. 2009. Getting beyond the welfare of the child in assisted reproduction. *Journal of Medical Ethics* 35:373–76.

Walker, M. 2009. Enhancing genetic virtue. *Politics and the Life Sciences* 28:27–47.