Journal of Benefit-Cost Analysis (2026), 17: 1-2, 169–176
doi:10.1017/bca.2026.10048

CAMBRIDGE UNIVERSITY PRESS

INVITED PAPER

Valuing Children's Statistical Lives: A Conceptual Framework

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Keywords: behavioral biases; children's lives; statistical children; willingness to accept; willingness to pay

JEL Codes: K1; K2

Abstract

A longstanding puzzle for regulatory theory and practice has been the valuation of children's lives, or more precisely, the valuation of mortality risks faced by children. There are data about parents' willingness to pay (WTP) to reduce such risks, and that data might be used to estimate the value per statistical life (VSL) for children. The problem is that any such VSL comes from the parents' valuations; it might not adequately capture the welfare effects of risk reduction for children themselves. It can be shown, however, that use of parental WTP, and the resulting VSL, is justified on four assumptions: (1) parents have adequate information, (2) parents do not suffer from a relevant behavioral bias, (3) parents have a limited budget for expenditures on their children, and regulation would amount to a forced exchange, producing a dollar-for-dollar reduction from that budget, and (4) parents are sufficiently motivated to care about their children's welfare, so that parental judgments about how to allocate limited resources for their children promote their children's welfare. If we relax one or more of these assumptions, the appropriate VSL for children might be different from, and potentially higher than, the VSL that emerges from use of parental WTP. Implementing the proposed framework presents serious but tractable empirical challenges.

1. An unsolved puzzle

Under prevailing Executive Orders, federal agencies must engage in cost–benefit analysis of federal regulations, and to do that, they must value savings in terms of both mortality and morbidity.[1] Under those Executive Orders, the value per statistical life (VSL) is an exceedingly important number (Viscusi, 2018). It is now in the vicinity of $13 million (U.S. Department of Transportation, 2024). This number is meant to capture people's willingness

[1] Perhaps surprisingly, this basic edict has been maintained notwithstanding changes across administrations (Sunstein, 2026b).

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https://doi.org/10.1017/bca.2026.10048 Published online by Cambridge University Press

to pay (WTP) for small decreases in mortality risks, or their willingness to accept (WTA) money in return for small increases in mortality risks (Viscusi *et al.*, 2014).

It should be clear, in this light, that the $13 million value is not meant to specify how much an individual would be willing to pay to prevent his own death in a given year. It is instead derived from studies that show how much people would be willing to pay to avoid low-level risks. On average, for example, someone in the United States might be willing to spend about 1.6 % of their income (perhaps $1,300) to reduce the risk of dying in a given year by one-in-10,000. VSL is based primarily on trade-offs observed in the marketplace (revealed preference studies), though evidence from contingent valuation studies (often called stated preference studies) is also used.

VSL raises many questions, and I intend to bracket most of them here (Viscusi, 2018; Sunstein, 2026b). It is important to emphasize that a VSL of $13 million is typically applied uniformly in benefit–cost analyses – that is, it is used to value mortality risks from any source for individuals at all ages and at any income level – and that in principle it should not be; it should vary across persons and risks (Viscusi, 2018; Sunstein, 2024). Cancer risks might be valued differently from risks of death from car crashes. Old people might have a lower VSL than young people. Wealthy people might well have a higher VSL than poor people. For any number of reasons, your neighbor might have a lower VSL than you do. The use of a uniform VSL is based partly on a judgment about administrability (Hemel, 2022), partly on a judgment about missing evidence, partly on a judgment about politics (ibid.), and partly on a judgment about morality (ibid.; Sunstein, 2026b).

The focus here is on a persistent and unresolved puzzle, which might be seen as the Finnegan's Wake of regulatory theory and practice: valuation of children's lives. I will be suggesting a solution to the puzzle. In short: On four identifiable assumptions, regulators should build a VSL from parents' WTP to reduce mortality risks faced by their children. The solution depends on a judgment that if we do not adopt it, we will make children worse off. The assumptions should be understood as both necessary and sufficient conditions.

Where the assumptions are unrealistic, as they will often be, regulators should adjust the relevant VSLs through the use of techniques that can readily be understood in principle, and identified in broad outline, but that remain to be specified and adopted. It is important to emphasize that the proposed solution does not, in fact, depend on a judgment that we can elicit a VSL for children, based on available data from the preferences of children themselves. We cannot do that because we lack that data (note that many children have little or no money).

By children, let us suppose that we are dealing with people under the age of 18, as is the assumption in many empirical studies. Agencies have long struggled to turn mortality risks faced by children into monetary equivalents (Sunstein, 2024). They often use the standard number for adults, even though the relevant evidence does not involve children; in 2026, for example, an agency reaffirmed its "practice of relying on a single VSL estimate applicable to all age groups" (U.S. Consumer Product Safety Commission, 2026). Sometimes agencies note that children are involved, with the occasional suggestion that they should be valued more highly than adults, perhaps because more life-years are at stake. After a sustained period of engagement with relevant evidence, the Consumer Product Safety Commission, frequently protecting children from mortality risk, concluded in 2024 that the VSL should be doubled for children, potentially producing a VSL, for them, of around $26 million (U.S. Consumer Product Safety Commission, 2024). The rationale referred to stated preference studies, but was partly normative, as the underlying empirical evidence remains in a state of

https://doi.org/10.1017/bca.2026.10048 Published online by Cambridge University Press

development (Raich *et al.*, 2018; Robinson *et al.*, 2019; Robinson, 2023; Kniesner & Viscusi, 2024). In 2026, the Commission revoked its 2024 guidance (U.S. Consumer Product Safety Commission, 2026), in part on the ground that the empirical foundation of the doubled VSL was weak and uncertain: "The Commission finds that the available empirical evidence is insufficient to support adoption of a novel double-VSL-for-minors methodology" (ibid.).

The empirical literature that has focused on parents' WTP to eliminate risks to children has involved both revealed preferences and stated preferences. (Both of these face serious challenges, to which I will return.) Some of the relevant work suggests that these values may be roughly equal to or greater than people's WTP to reduce risks to themselves, suggesting that the valuation for children should be akin to or greater than the valuation for adults (Williams, 2013; Robinson *et al.*, 2019; U.S. Consumer Product Safety Commission, 2023). But the use of parents' WTP runs into two immediate objections. The first is that regulators ordinarily focus on the WTP of the person whose life is at stake, not on the WTP of people who care about that person. In ordinary cases, regulators do not supplement the $13 million with (say) a population-wide average of the monetary contributions of family members, friends, and others, who would be willing to pay to avoid a statistical mortality risk faced by someone else. Very plausibly, that is a serious gap (Posner & Sunstein, 2005), although the appropriate treatment of altruism, and other-regarding preferences more generally, is a challenging matter.

There is an argument, admittedly contested, that if 10 people would be willing to pay something to eliminate a risk faced by an eleventh, the WTP of the 10 should count (for discussion, see Johansson, 1992; Posner & Sunstein, 2005). I do not mean to evaluate that argument here. The only point is that the use of parental WTP would be a departure from standard practice. To be sure, there is a difference between adding an "altruism premium" to the VSL for adults and using parents' WTP to infer a VSL for children. Adults have a degree of autonomy and are able to control their own expenditures on safety and other goods and services; children often have no control over the expenditures that will influence their safety risks and well-being more generally. For that reason, reliance on the revealed preferences of parents might be acceptable to those who do not believe in a general "altruism premium."[2] Still, it is unusual, in this context, to consider the preferences of people other than those whose welfare is directly affected.

The second and more fundamental objection is that the parental number does not include the welfare of the child, at least not directly; it is limited to the valuations of the parents (even though parents care about the welfare of their children, a point to which I will return). For this reason, it is tempting to think that there is some number that must be added to the $13 million figure, assuming that the number from the parents counts as well. What is that number? It is tempting to say that it is $13 million, on the theory that a child's life should not be valued less than the median adult, but what is the foundation for that judgment? Note well: if a child's VSL is valued at $13 million, and if the parents' WTP to protect their child produces an imputed value, to protect their child's life, of $13 million, we might conclude that the child's VSL really is $26 million – and again, the Consumer Product Safety Commission once went in that direction (U.S. Consumer Product Safety Commission, 2024), and then retreated (U.S. Consumer Product Safety Commission, 2026). Whether inclusion of both the parents'

[2] I am grateful to an anonymous reviewer for help with this point.

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WTP and an independent value for the child is a form of double-counting is a disputed question, on which I now hope to shed light.

2. A solution

Let us step back a bit. Ought the parents' WTP to be determinative after all? On plausible assumptions? Begin by assuming that parents will end up paying all of the cost of regulatory protection for their children. Assume, that is, that if children's toys are made safer, or if automobiles are equipped with some new child-protective technology, the parents will foot all of the bill. If so, regulation amounts to a forced exchange; the beneficiaries must pay for what they receive. Assume too that parents' expenditures fully determine the mortality risks and all other elements of their child's consumption. That is, children do not decide for themselves; parents are their deciders by proxy. These simplifying assumptions help both to motivate and to orient standard thinking about WTP and VSL.

Does it follow, on these assumptions, that regulators should use parental WTP? Possibly, but not quite.

To justify that conclusion, we need four further assumptions:

1. Parents do not suffer, in this context, from an absence of adequate information.
2. Parents do not suffer, in this context, from a behavioral bias, such as unrealistic optimism, availability bias, proximity bias, or present bias.
3. Parents have a limited budget for expenditures on their children, so that any amount spent on mortality risks will be taken out of that budget.
4. Parents care sufficiently about the welfare of their children, in the particular sense that their judgments about how to use the limited budget are motivated by an appropriate focus on what would be best for them.

My principal submission here is that, on these assumptions, parents' WTP and the resulting VSL are the right numbers to use. The objections made above are satisfactorily answered. If parents are required to spend more than they are willing to spend on a mortality risk faced by their children, those children will be worse off. The reason is that the relevant amount will be taken out of the budget, to their detriment.

3. Challenges

What if we relax the assumptions? That is a more difficult question to answer, and for two categories of reasons. First, it is not clear what to do if we relax the assumptions. Second, it is not clear how to test whether the assumptions hold. Let us begin with the first category of reasons.

Suppose, first, that contrary to assumption (1), some or many parents lack information, so that they are not willing to pay enough, or perhaps anything, to reduce a real risk. If so, the first line of defense should be to provide information. If that step is inadequate, the regulator should derive a VSL from WTP estimates that reflect the views of informed rather than uninformed parents (Goldin, 2017) – for reasons sketched above, an admittedly challenging endeavor. At least this is the right approach if the other assumptions hold as well, and if the use of that VSL will not end up distorting the relevant budget to the children's detriment.

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Suppose, second, that contrary to assumption (2), some or many parents suffer from a behavioral bias, so that they are not willing to pay anything to reduce a real risk, or so that they are willing to pay less than they would if they did not suffer from a behavioral bias. If so, the first line of defense should be to try to correct the behavioral bias. If that step is inadequate, the regulator should derive a VSL from WTP estimates that reflect the views of behaviorally unbiased parents (Goldin, 2017) – again, an admittedly challenging endeavor. It is true that if the regulator does that, the money will be taken out of the relevant budget. But it is not true that if that happens, it will necessarily be to the children's detriment. On the contrary, the new budget will improve the children's welfare, at least if assumptions (1) and (4) hold.

Suppose, third, that contrary to assumption (3), regulation does not amount to a forced exchange, producing a dollar-for-dollar reduction from a fixed budget. Perhaps the budget has a degree of flexibility in it, so that a regulatory mandate, reducing risks, will be followed by an addition to the budget from the parents, making it bigger on balance. If so, children will be better off. Alternatively, imagine that parents pay 60 % of the cost of risk reduction, or 40 % of the cost, or 30 % of the cost. If so, it is easily imaginable that some, many, or all children will be better off. Perhaps there will be a welfare improvement overall. But we do not really know, because we need to know more about the incidence of costs and benefits (Hemel, 2022). Who is paying the rest of the cost? Are they wealthy or are they poor? Are some or many of them children?

It would be hazardous to suggest that the WTP and VSL should be inflated in cases that do not involve forced exchanges, because the welfare and distributional consequences may not be good at all (Hemel, 2022). It is possible, however, that an assessment of welfare and distributional consequences will justify proceeding even if a regulation does not pass standard cost–benefit analysis. This is an exceedingly complicated question, beyond the scope of the present discussion (Robinson et al., 2016).

Suppose, fourth, that contrary to assumption (4), some or many parents do not care sufficiently about their children's welfare, so that an adjusted budget, brought about by the regulatory mandate, would be better for some or many children, even supposing that parents have sufficient information and do not suffer from a behavioral bias. If the problem is that parents do not care enough, the problem involves their values, not their lack of information or their bounded rationality. If regulation shifts the components of the budget – from, say, candy consumption to protection against mortality risks – children will be better off, at least on plausible assumptions. It follows that parental WTP and the resulting VSL will be too low. Regulators should use a VSL that reflects the judgments of parents who do care sufficiently about their children's welfare, unless doing so will produce some further distortion to the children's detriment.

I have suggested that the underlying principles are relatively straightforward, but that questions of implementation are more challenging. It is necessary to begin by eliciting parents' WTP to reduce statistical risks to their children. As I have noted, regulators might rely on revealed preference studies or on stated preference studies, and both run into standard concerns in this domain. Current evidence is limited (Kniesner & Viscusi, 2024). Even if we have adequate evidence, we would need to know, among other things, if parents' values are infected by an absence of information or by a behavioral bias, or by insufficient concern for the welfare of their children. Obtaining that knowledge would present evident challenges.

Consider in this light the question of whether the assumption holds, a question on which there is ample room for further empirical work:

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1. For revealed preferences and information: Parents know that they are buying a bike helmet, but they are unlikely to know the risk reduction that it will provide. The extent of parental knowledge could be explored in various ways, including through field experiments.
2. For stated preferences and information: Studies do and should include detailed provision of information about the product and its risks, but we are dealing with hypothetical questions that run into familiar objections (Diamond & Hausman, 1994; Schläpfer, 2008).
3. For behavioral biases: Once again, we do not know if parents, in revealed preference studies, have such biases. That too can be tested. Perhaps the availability heuristic (for example) affects people's behavior (Tversky & Kahneman, 1973); perhaps proximity bias is at work (Sunstein, 2026a). Stated preference studies can and should include relevant tests for validity and rationality. We might well be able to identify behavioral biases in such studies; one question is whether debiasing is possible.
4. With respect to a limited budget: Revealed preference studies inherently incorporate that constraint, which should solve the problem. Informing respondents about budget constraints is a standard component of stated preference studies.
5. With respect to parental concern about their children's welfare: This is particularly challenging to monitor. It may be that low numbers should not be considered in relevant studies. But how low is low, or too low? We would need some kind of (normative) baseline to answer that question; perhaps we could specify a plausible range (an imputed VSL of $1000, $10,000, $100,000, or even $1 million would raise a red flag). It might be tempting to adopt a presumption that parents do, in fact, care sufficiently about their children's welfare. But what is the empirical basis for that conclusion in the context of low-level risks? We could use revealed preference studies to test whether, and to what extent, parents do in fact devote resources to reducing the low-level risks faced by their children. Stated preference studies might give us valuable information on this question.

It will be noticed that throughout, we have been treating risk reduction as a kind of commodity, one that people can buy. The prevailing theory, with respect to VSL, depends on the view that risk reduction should indeed be treated in this way. As noted, that theory should, in principle, call for a degree of individualization or personalization, and the same is true for valuing statistical children, under the framework provided here. A family in a poor nation should have a lower VSL, for children, than a family in a rich nation. The reason is not that children in poor nations are worth less, in some fundamental sense, than children in rich nations. It is that poor people have less money to spend than rich people. If that is unjust, the right response is not to force poor people to pay more than they want. That would make the problem worse, not better. The right response would be to transfer money to those who have little of it.

In any event, the prevailing theory might be understood to call for personalization or individualization with respect to children's statistical lives, just as with respect to the statistical lives of adults. All of the points here would suggest how to engage in personalization. If regulators are not going to personalize, as perhaps they should not (Hemel, 2022), they should adopt the same approach with respect to children as they do with respect to adults: They should use population-wide averages (cf. Kniesner & Viscusi, 2024). All of the strategies described here might be enlisted to develop those averages.

https://doi.org/10.1017/bca.2026.10048 Published online by Cambridge University Press

4. A concluding note

Valuation of children's lives has produced a persistent challenge to both theory and practice. It is tempting to propose, as many have, that parental WTP and the resulting VSL should be used to value children's lives. One problem with that proposal is that if we are concerned about the welfare of children, that figure might seem to be a crude proxy at best. The reason is that it captures the WTP of parents, and hence their concern for their children, but does not speak to, or capture, the welfare of children as such. There are similar issues in the valuation of statistical animals, for which human WTP would not be adequate (as argued in Sunstein, 2026b).

The central argument here has been that on four identifiable assumptions, the number that emerges from parental VSL is much better than a crude proxy; it is precisely correct. On these assumptions, using a higher number than the parents' WTP would hurt, and not help, children; it would do so because a higher number would take, from the parents' budget, resources that would best be used as the parents see fit, not on risk reduction.

The problem is that the assumptions may not hold. If they do not (and here empirical tests are essential), the resulting figures should be adjusted. In principle, we can specify why those adjustments need to be made. I have offered some preliminary suggestions about the appropriate strategies, though they remain to be fully specified.

Acknowledgments. The author is grateful to Edward Glaeser, James Hammitt, Eric Posner, Lisa Robinson, and W. Kip Viscusi for valuable comments on a previous draft. The author is also grateful to two anonymous reviewers for numerous valuable suggestions.

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Cite this article: Sunstein, Cass R. 2026. "Valuing Children's Statistical Lives: A Conceptual Framework." *Journal of Benefit-Cost Analysis* 17: 169–176, doi:10.1017/bca.2026.10048

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