



ARTICLE

The Value of Risk in Transformative Experience

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Abstract

Risk is inherent to many, if not all, transformative decisions. The risk of regret, of turning into a person you presently consider to be morally objectionable, or of value change are all risks of choosing to transform. This aspect of transformative decision-making has thus far been ignored, but carries important consequences to those wishing to defend decision theory from the challenge posed by transformative decision-making. I contend that a problem lies in a common method used to cardinalise utilities – the von Neumann and Morgenstern (vNM) method – which measures an agent's utility function over sure outcomes. I argue that the risks involved in transformative experiences are constitutively valuable, and hence their value cannot be accurately measured by the vNM method. In Section 1, I outline what transformative experiences are and the problem they pose to decision theory. In Section 2, I outline Pettigrew's (2019, *Choosing for Changing Selves*) decision-theoretic response, and in Section 3, I present the case for thinking that risks can carry value. In Section 4, I argue for the claim that at least some transformative experiences involve constitutive risk. I argue that this causes a problem for decision-theoretic responses within the vNM framework in Section 5.

Keywords: Decision theory; rationality; risk; transformative experiences; utility cardinalisation

1. Transformative experiences

Paul (2014) introduces transformative experiences as experiences that epistemically and personally transform. An experience is epistemically transformative when it teaches you what a new kind of experience is like, where what the experience is like is inaccessible to you prior to having the experience. A paradigmatic example of an epistemically transformative experience is eating a food with a unique taste for the first time, such as a durian fruit. In tasting durian fruit for the first time, you discover what it's like to taste durian fruit and whether you like it or not. Personally transformative experiences cause significant change to a core aspect of who you are, for example, they may change closely held political beliefs, how you view your relationships with loved ones, or, importantly for our purposes, your values. The experience of getting divorced, having a child, or going to therapy can be personally transformative. When an experience is both personally and epistemically transformative, it is a transformative experience.

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The question at the focal point of the transformative experience literature is whether we can rationally choose or avoid having a transformative experience. Paul (2014) argues that transformative experiences pose a problem for expected utility theory (EUT), our orthodox theory of rationality. According to EUT, we choose rationally when we choose the action with the highest expected utility, where the highest utility (or value) option is calculated using your utilities and credences.

Rational choice is impeded by both epistemic and personal transformation. The problem of epistemic transformation is caused by the presence of an epistemic barrier to knowing what a transformative outcome is like. Without this knowledge, we can't judge how valuable that outcome is based on what it will be like.¹ Personal transformation poses a problem because we have to mediate between at least two potentially conflicting sets of values – EUT does not tell us what is rational to do in this scenario.² There seems to be a rational requirement for the agent to act in two mutually exclusive ways, either in line with their current or their future preferences. Paul's twofold challenge poses a serious question to EUT – is it possible to make transformative decisions using our orthodox theory of rational choice?

Some deny that this is an insurmountable problem (Collins 2015: 286–87; Khan 2021: 6717–19; Pettigrew 2020: 101–2). To start, the problem only arises for non-constructivist and deliberative conceptions of decision theory, on which credence and utilities are more fundamental than preferences and your deliberations are required to be sensitive to the expected utilities of your options. Thus, the problem can be avoided by adopting a constructivist or evaluative conception of decision theory.³ However, a number of philosophers argue that even the constructivist deliberative conception of decision theory can rise to the challenge. Decision theory was designed to handle uncertainty, after all, so we can incorporate the value uncertainty highlighted by transformative experiences into our decision problem. This line is taken by Richard Pettigrew (2015a, 2016, 2019, 2020) in his treatment of rational decision-making in the face of the problem of transformative experience.

2. Pettigrew's solution

Pettigrew proposes two decision-theoretic solutions to the problems of transformative experience: the fine-graining response (FGR) handles the problem of epistemic transformation (Pettigrew 2015a, 2016, 2019, 2020), and the aggregate utility solution (AUS) handles the problem of personal transformation (Pettigrew 2019). Both the FGR and AUS adapt the standard decision-theoretic framework to incorporate the significantly increased amount of uncertainty and change that we face when making transformative decisions.

¹What the experience is like is often central to determining how valuable the experience is like for an agent. See Paul (2020: 27–32) for arguments and Bykvist and Stefánsson (2017) for critical discussion of this point.

²Some will happily accept that EUT simply tells us to act based on our current preferences (or that our preferences will be revealed through the agent's choice). I put such views to one side. See Pettigrew (2019) for discussion.

³Further discussion of this claim is needed. Plausibly, the problem of transformative experiences may be adapted to pose a problem to alternative conceptions of decision theory. For instance, while the constructivist may be able to deny that an agent lacks an appropriately informed utility function, as their utility function is simply derived from their preferences, are uninformed preferences not equally bad? Arguably so. Thanks to Laurie Paul for highlighting this concern.

The driving thought behind the FGR is this: EUT is designed to handle decisions under uncertainty. Normally, when we make decisions under uncertainty, we are uncertain about *which state* actually obtains, e.g. whether it will rain or not later. EUT allows us to incorporate our uncertainty into our decision by specifying distinct possible states and then assigning credences which represent how likely we take each state to be. However, when faced with a transformative decision, we face not only uncertainty about the external world, but uncertainty about our own utilities and how they may change in the future. Thus, we can make transformative decisions by specifying the possible utilities we may come to assign to an outcome in the states. The possible utilities and the likelihood that the outcome will have each particular utility are based on third-personal evidence, such as testimony or statistics. Thus, with the FGR, we have solved the uncertainty problem – we have specified our unknown possible future utilities in the states of our decision problem.

The FGR alone does not constitute a full solution to the problem of transformative experience. There is a remaining question, posed by personal transformation, about how we ought to combine information about our possible future values with our current (and past) values, to make a decision. Pettigrew (2019) proposes the AUS as a solution to the problem of personal transformation.

The AUS, developed at length in Pettigrew (2019), works similarly to the FGR. It encapsulates the value change that often accompanies transformative experiences by increasing the information contained within the states of our decision matrix. If we expect that our current utilities will change, and since there are a number of different values one might develop (corresponding to different possible future selves) we need to take them into consideration.⁴ Equipped with the utilities of our various past, present, and possible future selves, the problem of personal transformation becomes, in effect, a problem of intrapersonal judgement aggregation. Pettigrew's solution to this intrapersonal version of the judgement aggregation problem involves weighting each self's utilities and summing them to obtain the group's 'corporate utility function'. Together, the FGR and AUS provide a comprehensive response to the problem of transformative experience.⁵ This is a very brief overview of the solution, but it will be sufficient for our purposes.

Crucially, the AUS requires utilities to be cardinalised. Pettigrew (2019: 91–92) uses the von Neumann and Morgenstern (vNM) method to achieve this goal. The vNM method allows us to move from ordinal information about how an agent values outcomes to cardinal information.⁶ It does so by 'translating' the latter into the former in the following way: take a lottery with three outcomes, A, B, and C, where A is the best outcome, B is the worst outcome (relative to that specific decision problem), and the utility of C is in-between that of A and B. The agent assigns utilities to each

⁴Though see Isaacs (2020: 1077–79) who argues that it is not necessary to find a compromise between our current and future utilities, as we can value or give due consideration to our future utilities in our current utilities.

⁵The FGR and AUS must be combined to provide a coherent response to the problem of transformative experience. It is clear that that the FGR and AUS do not give the same verdicts to decision problems. Consider, for example, whether your past, present, and possible future selves agree with third-personal evidence about what is rational. Further, the order in which they are used may also affect which act is judged to maximise expected utility.

⁶This means we can move from information about how the agent orders or ranks the outcomes (their ordinal utilities) to richer information about how much more or less they value those outcomes (their cardinal utilities).

outcome, ensuring that the utility of A is greater than the utility of B, $U(A) > U(B)$. To find the utility of outcome C, the value of which falls between that of A and B, the agent finds the gamble between A and B for which they are indifferent between that gamble and getting C for sure. In other words, the gamble between A and B is exactly as good as being guaranteed C, which gives us C's utility. Suppose $U(A) = 10$, $U(B) = 0$, and the agent is indifferent between a 75% chance of A and C for sure. Given this lottery, the agent would confer outcome C a utility of 7.5. The gamble you are willing to accept corresponds to how much you value the outcome in question.

The utility we assign to an outcome will thus be partly measured by the risks we are willing to take to obtain a sure outcome. Intuitively, willingness to take risks tracks desire. If I desperately want to travel, I will also be inclined to take significant risks in order to do so. Translated into vNM terms, if I am indifferent between a gamble which is 80% likely to result in me winning a round-world trip and going to Italy for sure, this suggests that I value going to Italy quite highly. However, if I am indifferent between a gamble on which there is an 80% chance of the worst outcome, not travelling anywhere, and going to Italy for sure, then I do not consider going to Italy to be much better than not travelling at all.

Pettigrew (2019: 92) concedes that willingness to take risks does not *always* track strength of desire – I may not be willing to take a risk to get something even if I value it highly, or I might be willing to take significant risks for something I don't value much at all. However, he maintains that most of the time, it will perform adequately. I agree that, normally, willingness to take risks typically indicates strength of desire. However, the realm of transformative experience is importantly atypical and, for a particular subclass of transformative experiences, it is atypical in such a way that prevents the vNM method from accurately determining their value. In the remainder of this paper, I will argue (1) that the risk associated with an experience can partially constitute its value, (2) that transformative experiences can be valuable in part because of the risk they involve, and (3) that the vNM method cannot be used to accurately determine the value of experiences for which risk is constitutive in the relevant sense, and so a problem looms for Pettigrew's solution.

3. The value of risk

A decision is risky if it involves a chance that the agent's action may result in disvalue. We typically aim to minimise the chance of potential negative outcomes, but sometimes, risks can be intrinsically valuable. Consider the case of mountaineering. Ebert and Robertson (2013) argue that the risk involved in mountaineering is at least partially constitutive of the value of mountaineering. It simply isn't true that the risks involved are peripheral to the experience, such that mountaineers would value it in the same way or for the same reason if the risks were eliminated. The risks mountaineers engage in are specific to the activity of mountaineering, and what it's like to face these risks is essential to the experience and value of mountaineering.

The claim that the risk involved in mountaineering is partially constitutive of its value means that if we were to remove the risks involved in mountaineering, the resulting experience would be a different experience altogether. Without mountaineering risks, many of the goods the mountaineer experiences such as feelings of achievement, self-efficacy, and adventure would not be the same. Mountaineering risks are more than mere means to an end – they are *constitutive* of the experience. While the goods of mountaineering are obtainable from other experiences, they have a distinct character

and are in some sense not the same kind of goods as those experienced in mountaineering (Ebert and Robertson 2013: 59). In short, the experience of mountaineering shapes the risks involved, and the risks in turn shape the experience.

The link between risk and value has also been explored more generally by Stefánsson and Bradley (2015: 605–6), who argue for the broader claim that many experiences are generally worthwhile because they involve some risk, such as a risk of failure.⁷ The chance of an outcome obtaining can make the outcome more or less valuable, *even if* the outcome is guaranteed or has already occurred. To illustrate: the value of winning a lottery is not solely due to the prize offered, but also because of the infinitesimally small chance of winning it. Consider that even when a prize is effectively worthless (or worth less than the ticket to enter), winning can hold positive value simply because the outcome is unlikely to obtain. Contrast this with a lottery in which you are guaranteed to win, where winning is less desirable because there is no chance of losing. Thus, chances themselves can hold value non-linearly – a higher chance of an outcome obtaining does not necessarily mean higher value.

If we accept that chances can have non-linear value, either generally or in cases involving constitutive risk, we have to reject an assumption of EUT based on the vNM framework, chance instrumentalism (CI), which says that rational agents should be indifferent between getting something for sure and a gamble with equivalent expected utility. According to CI, chances only have value insofar as they give an agent the chance to obtain some good – they do not have any value independent of the good (Stefánsson and Bradley 2015: 603). Stefánsson and Bradley prove that CI and the principal principle together result in linearity about the value of chances, so one must be rejected. The principal principle, introduced by Lewis (1980) concerns the relationship between rational credences and chances. If the evidence suggests that some outcome has a 5% chance of occurring, then a rational agent ought to set their credence at 0.05 in line with the evidentially supported chances. The principal principle is intuitive, widely accepted (in various forms), and plausibly a requirement of rationality, so I reject CI in line with Stefánsson and Bradley.⁸

It is important to note that Stefánsson and Bradley (2015) do not argue that chances are constitutive of the value of experience in the cases they discuss, merely that the chance of an outcome can be valuable independent of the associated outcome, i.e. the value of chances is not only in virtue of the value of the outcome but they are a chance of. However, the consequences of accepting that chances are valuable, whether because they are constitutive of the value of an experience or because they are independently valuable will require rejecting CI. Since Pettigrew's decision-theoretic solutions are based on the vNM framework, problems loom for outcomes which involve value-laden

⁷Interestingly, Stefánsson and Bradley (2015) also use the example of mountaineering as an experience which involves intrinsically valuable risk.

⁸See Stefánsson and Bradley (2015) for an argument. Principal principle (PP) and its variants are widely accepted, e.g. Schaffer (2003) and Black (1998). Notably, Pettigrew also (2019: 75, 85–86) explicitly accepts PP.

Interestingly, Collins (2015) offers a reframing of the problem of transformative experience. Collins (2015) argues for a position which also rejects CI in the context of transformative experiences. However, while Collins makes this move in arguing for rational neophobia and neophilia (i.e. the rationality of preferring known over unknown outcomes of equal value, or vice versa), I will argue that there is another source of value which CI ignores, namely, the value of risk in transformative experiences. Thanks to an anonymous reviewer for this point.

chances or constitutive risk. Having addressed (1), we will now move onto (2): the claim that transformative experiences can involve value-laden constitutive risk.

4. The value of risk in transformative experience

Though this point has not been addressed in the literature, I take it to be uncontroversial that the choice to have a transformative experience carries substantial risks.⁹ Great uncertainty and high stakes are characteristic of transformative experience and a large part of why making transformative decisions often involves an agonising process of deliberation. It is important to make the right decision given that one's identity and way of life are on the line, but we lack the information needed to determine which option is rational. We make important and often irreversible decisions under uncertainty and in doing so, we open ourselves to a number of risks.

One straightforward example of a transformative experience which involves constitutive risk is mountaineering. Kind (2020: 138–39) uses Alan Arnette's experience of climbing Everest as a transformative experience: Arnette (2016) claims that summiting or attempting to summit 'will change your life'.¹⁰ This is not a unique experience. There is a growing body of research about the motives of people who engage in extreme and nature sports which suggests that adrenaline-seeking, *reckless* risk-taking is less important to participants than the transformational effects and meaning that extreme or nature sports can hold (Brymer 2013; Holmbom *et al.* 2017).¹¹

[A]ll participants reported that extreme sports were responsible for profound and positive changes, not only in terms of behavior and positive psychological outcomes but also in terms of changes in values and identity.

Holmbom *et al.* (2017: 6)

Extreme sports, including mountaineering, provide participants with opportunities to conduct 'edgework' – to move out of their ordinary lives and activities and explore the edge of their comfort zones (Laurendeau 2006: 584). Doing something out of the ordinary allows them to explore aspects of themselves otherwise inaccessible in more mundane situations. Taking risks is central to the phenomenological character of extreme and nature sports. Risk-taking enables people to explore and expand the edges of their comfort zones, and this can be transformative.¹²

I contend that this aspect of mountaineering, of edgework as a way to explore oneself and the world, is shared with other transformative experiences. Transformative experiences, including mountaineering, expand agents' comfort zones through putting them through new experiences, teaching them something new and changing their values and beliefs. People choose (or are forced by the experience) to explore a new kind of life or a new way of being and learn about themselves or are changed by the process. The inaccessibility of these situations before you take the plunge and the potential

⁹Aside from Collins (2015) and in passing in Paul (2020: 16). Thanks to an anonymous reviewer for pointing out that Collins (2015) discusses the need to accommodate a wider variety of risk attitudes in transformative decision-making.

¹⁰Kind (2020) uses Arnette's case to argue for a separate point (that not all transformative experiences are new kinds of experience).

¹¹See also Ebert and Durbach (2023) for findings that participants of extreme or adventure sports are sensitive to risk and recklessness, more so than those who do not participate in such sports.

¹²This idea is touched on by Morocco Media (2019).

risks that people agonise over whether to take are *part* of the decision to move into a new way of life. The risks involved in many transformative experiences, while often different in character from those involved in sports such as mountaineering, serve the same function: to allow the agent to explore themselves and the world. The difference is merely that most transformative experiences achieve this through *epistemic* and *existential* edgework involved in having drastically new experiences, rather than the edgework through taking practical risks. Each kind of edgework holds the potential to be transformative.

We can broadly delineate two types of risks which will be faced by an agent making a transformative choice such as this: epistemic risks and existential risks. Take the experience of being a teacher as a potentially transformative experience. What the experience of being a teacher will be like, how it will affect you and your life are unknown prior to having the experience. Epistemic transformation may, for example, expose you to the risk of understanding new perspectives which you may not want to empathise with or which may be alien to you now.¹³ For example, one might decide to work in a school where many of one's colleagues are jaded and pessimistic about their students' ambitions. Learning what it's like to be a teacher in this environment will likely lead you to learn or understand why staff develop such perspectives. However, the ability to understand these perspectives may be taken as an indicator that one has started on the same path that they are on, leading to a plethora of depressing realisations. The epistemic transformation of learning what it is like to work at a school thus poses epistemic risks.

Personal transformation will give rise to another kind of risk: existential risks. Choosing to have a transformative experience exposes you to a non-negligible chance of serious loss or disvalue to both your present and transformed future selves. You might develop values which you deeply disvalue now, for example. In working as a teacher, you risk growing to value the acceptance of fellow staff over effectively teaching their students, or disvalue attempts to better students after seeing a number of unsuccessful attempts. This is a specific example, but existential risks are present in a number of paradigmatic transformative experiences, for instance, in becoming a parent, in changing careers, and in moving to a new country. These transformative experiences could result in a change or loss of important relationships, a significant and potentially negative change in identity, loss of your way of life for a less simple, less enjoyable one, and so on.

In deciding to become a teacher, you accept the epistemic and existential risks outlined above. You might become someone you currently deeply disagree with, your perspective on students might change, and you may find yourself no longer committed to caring for the students who motivated you to apply to the job. These risks are specific to working as a teacher – they are shaped by the experience.¹⁴ The risks also shape the experience. The desire to avoid these risks motivates one to be conscious of changes in beliefs, values, and pedagogy. Succumbing to the risks will also shape your experience as a teacher. Knowing that one has faced these risks and managed to help students in the face of them can be a great source of pride, which would not be present without the real epistemic and existential risks faced in the job. The experience of working as a

¹³See Paul (2021) for a discussion of the potential risks which can come with developing and understanding different perspectives.

¹⁴The risks will vary depending on a number of factors about yourself, the school, your colleagues, your students, and so on.

teacher would be radically different if the risks were subtracted from it in a way which would make the experience less valuable.

Of course, the risked outcome of becoming an uncaring teacher is highly disvaluable both from the agent's and students' perspectives. The experience of working as a teacher would be objectively better if these were not risks. However, insofar as these risks are actual and not eliminable by any individual agent, these risks can be a source of value. They can drive epistemic and personal transformation in an agent in a way that would not be possible without the presence of the risks. Thus, the risks shape the experience in such a way that they are constitutive of the value of the experience.

Finally, to say that risk is constitutive of the value of an experience is not to say that the risked outcome itself is somehow positively valued. Even in the case of extreme sports, agents do not assign high utilities to risked outcomes. The realisation of risks is not valuable – no mountaineer would claim that losing a friend or breaking a limb made the sport more enjoyable. It is navigating the 'edge', of opening yourself to the risk that is valuable, rather than enduring the risked event. Again, the same is true in transformative experience.

These risks can be realised in a number of different ways by different transformative experiences.¹⁵ The risk of making a regrettable yet irreversible change to one's life is surely a central part of what it means to undergo a transformative experience, and so this risk must be constitutive in some sense. Each experience would be drastically different if it lacked risk, and the risks which they bring are specific to that experience. The risks involved in transformative experiences are thus constitutive.

While the discussion in this paper has focused on risk constituting the positive value of a transformative experience in the sense that it is part of why the experience is valuable, it is also possible for some risk to be intrinsically disvaluable for an agent. Risk which is inherently disvaluable may reduce the overall value of the experience. For instance, becoming a parent involves accepting risks which pose danger to your child, a risk which surely only contributes disvalue to the experience regardless of the experience itself is valued positively or negatively. It is not a matter of pride whether you or your child manage to avoid risks which are out of your control. While risk might be partially constitutive of the value of a number of transformative and non-transformative experiences, this is not to say that it only contributes positive value to the experience, nor that everyone who undertakes these experiences values the risks.¹⁶

The risky aspects of transformative experience are value-laden. The risks we take when we choose to have or avoid a transformative experience can be partially responsible for driving personal transformation. The risks taken on will shape not only the character of the transformative experience, but also the transformation that the agent endures. This aspect of transformative experience has thus far been ignored but carries important consequences for those wishing to defend decision theory from the problem transformative experience poses to it. With (2) now addressed, we can move on to our final point, (3) the problem for decision-theoretic responses to the problem which utilise the vNM method.

¹⁵For example, moving to a new country might mean that you lose your old friends, becoming a banker in the city might make you less nature-oriented, or you might become addicted to social media after having not used it your entire life.

¹⁶Further discussion of the interaction between risk and value can be found in Goldschmidt and Nissan-Rosen (2021), though a discussion of how this affects transformative experiences is beyond the scope of this paper. Further work is needed to establish the interaction effects of constitutive risk.

5. The problem

The challenge of responding to the problem of transformative experience from within a decision theory based on the vNM framework is that the value-laden risks involved cannot be accurately represented.¹⁷ Since risks are constitutive of the value of a number of transformative experiences, responses relying on the vNM framework cannot accurately capture their value. This poses a problem. A response which involves inaccurately representing the value of transformative outcomes is clearly unsatisfactory.

In cardinalising our utilities using the vNM method, we assess the value of outcomes according to the agent's preferences over sure outcomes (Goldschmidt and Nissan-Rosen 2021: 7555). If the outcome we are considering derives some of its value from risk, i.e. if the risks partially constitute the value of the outcome, the vNM method will not measure the value of the experience. Consider this point with respect to our examples above, of a mountaineer summiting Everest and our example of becoming a teacher.

First, take the decision to attempt to summit Everest. One of the possible outcomes of attempting Everest is that you reach the summit. Measuring how valuable reaching the summit is, according to the vNM, requires us to suppose that this outcome is guaranteed. I take this to have two possible interpretations. On the first interpretation, it could mean that we take the outcome to be certain because the risks have been eliminated – there are simply no risks considered as part of the experience. The outcome you are evaluating here is undeniably different from the outcome you intended to measure. To consider a scenario in which you either do not face any risks, or are guaranteed to overcome the risks you do face mischaracterises the risks involved – if there is no genuine chance of succumbing to a risk, then it isn't a risk. Hence, this is not a viable interpretation of the outcome of summiting Everest which is sensitive to the value of risk.

The second interpretation is that the outcome is recharacterised to explicitly incorporate the risks; for instance, the outcome is changed from summiting Everest to summiting Everest following a risky or challenging climb.¹⁸ This might seem to make headway on the issue, but it retains the issue that either certain risks are guaranteed to be faced, or that they are guaranteed to be overcome. Besides this issue, it will not be acceptable to a proponent of the vNM method for the reason that it smuggles risk into the description of the outcome (Stefánsson and Bradley 2015: 610). It thus satisfies the letter but not the spirit of CI, and for the same reason is objectionable to someone who endorses the value of risk.

Turning now to the example of becoming a teacher. If we evaluate the outcome of becoming a teacher as be a sure outcome, as we are required to use the vNM method, we face the issues outlined above with even greater amounts of uncertainty. First, there is no singular experience of being a teacher which *could* be guaranteed, meaning that you necessarily alter the character of the outcome by guaranteeing it. After all, many epistemically transformative experiences are unpredictable. If we try to fine grain the outcomes to include the different ways the experience might be and the risks we might face,

¹⁷While transformative experiences provide an acute example of this problem, it may also arise more generally for experiences which derive some of their value from constitutive risk. Further discussion of this issue is beyond the remit of this paper, but deserves independent attention. Thank you to an anonymous reviewer for raising this point

¹⁸A similar approach would involve assigning utilities to act–outcome pairs, rather than outcomes. This way, the risky nature of the action is part of what we evaluate (Pettigrew 2015b). Thanks to Richard Pettigrew for suggesting this response.

we again face the problem of mischaracterising risks by guaranteeing whether we overcome them.

Hence, the vNM abstracts risk away from outcomes. If risks are constitutive of the value of an experience, when we abstract away risk, we cease to measure the utility of the same experience. Since transformative experiences are risky experiences, the vNM method cannot meaningfully measure their value.

If we take the idea that transformative experiences can involve constitutive risk, then we need to reject the same assumption of decision theory that Stefánsson and Bradley (2015) reject to maintain that chances can bear value, CI. Since the vNM method for cardinalising utilities results in risks and chances having linear value, this does not allow for chances to have value, or for experiences which involve constitutive risk to be accurately represented. Chances are not valued as a linear function of the value of an outcome (Goldschmidt and Nissan-Rozen 2021: 7555; Stefánsson and Bradley 2015). Thus, a viable decision-theoretic response to the problem of transformative experience must take account of the risks involved in deciding to have such experiences.¹⁹

One might argue that Pettigrew's account is well-equipped to deal with this objection. The FGR in particular does not require us to cardinalise our utilities – we base our possible utility assignments and how likely we are to develop each particular utility function on *third-personal evidence*. These possible utility assignments will contain the risk value judgements of the testifiers who give them. Thus, the agent is free from the obligation to cardinalise their own utilities, and the objection does not arise.²⁰ I do not think that this defuses the objection. There are two possible ways one might flesh out the details of this argument, and significant problems arise either way.

The first way of interpreting the FGR as sensitive to the value of risk is that risk value judgements are contained within testifier's utility assignments, and so we don't need to assess the value of risk ourselves. This interpretation is a non-starter. If the testifiers have incorporated their risk value judgements into their utility assignments, then we can assume that they are *not* using the vNM method to cardinalise their utilities. If they aren't using the vNM method, then we need to look towards other potential methods for cardinalising utilities which might be able to take risk value judgements into account, which brings us to the second way of interpreting the FGR to respond to the problem.

The second way one might consider amending the FGR is by using an alternative method of cardinalising utilities, rather than the vNM method. This may necessitate a move away from EUT and for Pettigrew's solution to be reformulated within a different framework. While possible, I suspect that the same issue will arise whenever the utility of an outcome is intended to be assessed separately from the constitutive risk of that outcome. A natural suggestion for an alternative framework which pays greater attention to risk is Buchak's (2013) risk-weighted expected utility (REU) theory. REU theory provides an alternative method for cardinalising utilities, the comonotonic

¹⁹Stefánsson and Bradley (2015) develop a Jeffrey-style framework which allows for the value of chances to be recognised. However, whether this could be straightforwardly applied in the case of transformative experience is questionable. They evaluate the chances independently from the outcome, whereas I have advocated for a much tighter relationship between the overall value of the experience as dependent on the risks and experience. Further discussion of this point is beyond the remit of this paper and should be addressed by future research.

²⁰Thank you to an anonymous reviewer for raising this response.

tradeoff consistency axiom, which calls for utilities to be measured using pairs of outcomes of gambles.²¹ If the utility difference between the outcomes of each pair is equivalent, i.e. the outcomes have the same compensatory value, then the agent values them stably and consistently and we can use them to derive cardinal utilities (Buchak 2013: 100–7).²² However, the risk associated with the assessed outcomes is explicitly intended to be excluded from the resulting cardinal utilities, for the risks associated with a gamble are accommodated through Buchak's risk function. The risk function measures an agent's willingness to take certain trade-offs between better and worse outcomes. While this is, of course, an improvement in EUT's treatment of risk, it excludes the possibility of risk-holding intrinsic value. Risks are measured as independent of the outcome's value, and so I am doubtful that this provides an out for the decision theorist.

Finally, even if there is a way for testers to incorporate their risk value judgements into their utilities and so we do not face the issues outlined above, reliance on third-personal evidence to incorporate risk-value judgements removes the need for the agent to consider or acknowledge the constitutive risk involved in the transformative experience. If risks do drive epistemic and personal transformation, as I have argued in this paper, then failure to appropriately acknowledge the constitutive risks (e.g. by employing the FGR) means that the agent has a substantial blindspot for the risk-driven epistemic and personal transformations which they may face. This blindspot may inhibit their ability to prepare for the transformative experience, and this limited preparation may make it more likely that a risked outcome manifests and leads the agent to transform in a suboptimal way.²³

6. Conclusion

In conclusion, while the vNM method is adequate when setting utilities for more mundane outcomes, it requires that we abstract risk away from outcomes. This is a problem when the risk is constitutive of the value of the experience – removing the risk will lead you to measure the value of a different experience. Transformative experiences are typically also risky experiences, where the underlying risk is constitutively bound up to the value of the outcome. The utility we derive using the vNM method will not measure how much the agent values a transformative outcome, it will measure a separate experience which is devoid of risk. Thus, decision-theoretic responses to the problem of transformative experience face a problem if they require agents to cardinalise their utilities using the vNM method, and possibly more broadly if their theory involves CI as a requirement of rationality.

Certainly, there are transformative experiences which don't involve exploring one's comfort zones. Marrying someone you have been with for many years may not involve many opportunities to engage with and overcome risks. The extent to which risk characterises a transformative experience will also depend on the agent herself. Moving away from home for the first time may be risky for someone who isn't employed and not risky at all for someone in the same situation but who knows their family will support them financially if they don't find employment. A full treatment of the extent to which

²¹There are restrictions on the outcomes which can be used here but I omit them for brevity. See Buchak (2013: 100–3).

²²For technical details, see Köberling and Wakker (2003: 397) and Buchak (2013: 100–7). For further reasons to be sceptical about using lotteries to cardinalise utilities, see Collins (2015).

²³Thank you to an anonymous reviewer for raising this point.

constitutive risks interact with the value of transformative experience is beyond the remit of this paper, though I will assume that given the risks inherent to many transformative experiences, constitutive risks are sufficiently widespread to pose the following problem for decision-theoretic solutions, such as Pettigrew's, which are based on the vNM framework.²⁴

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