Taboo Trade-offs, Sacred Values and the Moral Limits of Markets

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A dissertation submitted in fulfilment of the requirements of the Doctor of Philosophy (PhD) degree in the Department of Psychology, Macquarie University.

Submitted October 2016

ABSTRACT

Globalization is a process by which local and national markets become increasingly integrated within the global economic system. Not only are markets becoming more global, but the reach of the market is extending further into the lives of individuals and communities, with areas of life traditionally part of the non-market realm being absorbed into the economy. The moral judgements that individuals and communities make about what can and cannot be sold in markets constitute a moral limit on the reach of markets in society. This thesis has drawn on research primarily from the fields of social cognition and decision making to explore the moral limits of markets. In particular, it has utilized concepts and theoretical frameworks associated with the study of sacred or protected values to shed light on what underlies these moral judgements and to test the flexibility of these judgements. The thesis comprises three major studies and a pilot study: Study 1 used the sacred value protection model and showed that sacred values underlie trade-offs regarded as taboo. It also demonstrated that under certain conditions efforts to undermine sacred values backfire and actually strengthen both the trade-off resistance of sacred values and the boundary between the non-market and market realms. By contrast, Study 2 explored the problem of the shortage of kidneys for medical transplant that sits at the boundary between the non-market and market realms. The study found that moral judgements about the acceptability of market-based solutions to the kidney shortage were far more flexible than the results of the first study suggested. Study 3 examined whether manipulating the time people had to make moral judgements about proposed market exchanges increased their acceptability, and it was found that it did not. Overall, the thesis found that sacred values are an important determinant of the boundary between the non-market and market realms, but that judgements about the moral acceptability of market exchanges are quite context sensitive.

ACKNOWLEDGEMENTS

Undertaking a PhD when you are middle-aged, have a family and a full-time job in a different academic department that is dubious about the value of a cross-discipline thesis, has proved to be overwhelming at times while still being intellectually absorbing. It is with this in mind that I would like to thank my supervisor Associate Professor Colin Wastell who has been a constant source of support and encouragement. More than that, Colin completed his doctoral studies under circumstances very similar to my own, and I greatly appreciate his empathic understanding of the different sets of responsibilities and obligations that cut into the time you have available to progress your research. A thank you to Professor Mark Wiggins for being on stand-by for me as the associate supervisor. I also benefitted from statistics support provided by Dr Alan Taylor for the first study, and also the support provided by Dr Eugene Chekaluk on the second study. A note of thanks as well to the Department of Psychology at Macquarie University that financially supported the thesis through the provision of a Higher Degree Research Grant that financed trips to conferences and financed the payment of participants who took part in some of the studies. Many thanks to Laura Billington for providing support in putting the thesis together.

To my wife, Hester, a heartfelt thank you for being an enduring source of love and support, and to my two sons, Evasio and Rafael, thank you for being such good fun and providing a welcome distraction from the trials of designing and conducting your own experiments, especially when they don't work out as planned. Also to my two great friends Peter Veenhuizen and David Pullini, thank you for always being willing to take a phone call when I needed to talk. Finally, I want to acknowledge three very important people to me who died in the course of this candidature. My father, Ian MacMillan, a caring and loyal man. My wonderful mother-in-law, Catherine Barrington-Ward, and my dear friend and one-time associate supervisor, Associate Professor Doris McIlwain. I miss you all very much.

Declaration of Originality of Research

I certify that the research described in this dissertation has not already been submitted for any other higher degree.

Ethics Committee approval was gained for all experimental work. The relevant Ethics codes are; 5201000639, 5201400384 and 5201500822 (see Appendix D).

I certify that to the best of my knowledge all sources used and any help received in the preparation of this dissertation have been acknowledged.

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CHAPTER 1

INTRODUCTION

Over recent decades areas of life that were traditionally part of the non-market domain have been absorbed into the economy through the process known as "commodification" or "marketization" (Ertman & Williams, 2005; Radin, 1996). This process whereby the logic of the market reaches further into the lives of individuals and communities operates at both an actual level and a rhetorical level, with more things previously not for sale actually being traded and more areas of life being described and thought about in commodified terms (Radin, 1996). Manifestations of this process in the world are plentiful. During the recent presidential elections in the Dominican Republic people openly touted their vote for sale to the highest bidder, with prices of $20 or more, reportedly being paid to vote for a particular candidate (Fieser, 2016). A few years earlier a man was arrested in the United States for trying to auction his vote in an upcoming presidential election on eBay (Hanners, 2008). Furthermore, young people have offered to sell their virginity in online auctions (Matyszczyk, 2009), and firms have offered apology services, where they arrange for an apology to be made on your behalf to someone you have offended. For your wedding day, it is now possible to hire from a company your best man or bridesmaid and also get your wedding speech written for you (Ang, 2016; Sandel, 2012). Examples of rhetorical commodification abound in the self-help area of bookstores, with titles exhorting us to think of ourselves as "brands" that need re-styling, so we can become the "brand new you" (Middleton, 2012).

This process of "commodification" or "marketization" is part of what Fine (1999) described as an "economics imperialism" whereby people, ordinary citizens, social scientists, policymakers and politicians apply an economic way of thinking to more and more areas of life. At the forefront of this process has been the economist, Gary Becker, who in his 1976 book, *The Economic Approach to Human Behaviour,* called for decision making in all areas of life, not just the market domain, to be subject to the logic of economics. Indeed, in 1992

Becker was awarded the Nobel Prize for Economics for this reason, with the Nobel Committee stating their motivation for choosing him was because he had "extended the domain of microeconomic analysis to a wide range of human behaviour and interaction, including non-market behaviour" (Nobel, 1992). Examples of this economics imperialism in the social sciences include studies on the economics of marriage (Becker, 1973 & 1974), of the family (Becker, 1981), of dating and mating (Nicolson, 2014), of adoption (Landes & Posner, 1978) and of kidney markets (Becker & Elias, 2007). Another striking example of this process is "social capital" that was one of the most researched concepts in the social sciences during the 1990s and early 2000s. The concept of "social capital" recasts social relationships as a form of capital, and uses the economic theory of investment to analyse social relations (Fine, 2001). Costs are incurred to build social relations, which in turn yield a stream of benefits, and a comparison of costs and benefits determines the rate of return on social relationships, that is, on social capital.

The issues raised by this expanding reach of the market have recently led to two important philosophical works that have investigated the moral limits of markets, *What Money Can't Buy* (2012), by Michael Sandel, and *Why Some Things Should Not Be for Sale*, by Debra Satz (2010). Sandel (2012) in particular has pointed out that this transition from having a market economy that organizes production to becoming a market society that "is a way of life in which market values seep into every aspect of human endeavour…where social relations are made over in the image of the market" (p. 10-11) has occurred without major debat,e and now this political debate is urgently required.

An important question associated with this process of "commodification" or "marketization" is what determines the boundary between the non-market and market domains or between the realms of the sacred and the secular. Economists have tended to emphasise the technical determinants of this boundary where phenomena such as public goods, externalities and information asymmetries generate market failures that often provide a

limit to the reach of markets (Ackerlof, 1970; Stiglitz, 2015). By contrast, legal scholars (Radin, 1996) and philosophers (Sandel, 1998 & 2012; Satz, 2004 & 2010) and some economists (Kanbur, 2004; Marglin, 2008) have drawn attention to the moral limits placed on the use of markets.

In psychology, the dominant tradition in social cognition and decision-making research proposes that people function as intuitive economists whose goal is to maximize utility subject to the constraints that confront them. According to this approach people must be agile cognitive managers, able to make value trade-offs between competing choices. In order to make these trade-offs people must be able to compare the value of one choice with another. In other words, the choices must be commensurable, which requires the valuation of all choices using a single utility metric. Consequently, people are assumed to be able to arrive at an explicit or implicit price for a particular object or activity (Tetlock, 2002 & 2003). Moreover, this dominant tradition can easily accommodate the process of increasing "marketization" and "commodification". However, as Tetlock (2002 & 2003) pointed out, sociologists and anthropologists have regularly demonstrated that individuals and communities regard certain objects, activities and relationships as sacred. They are priceless and therefore beyond the market, and to assign a monetary value to them is taboo. Tetlock, compared these taboo exchanges that pit a secular value, like money, against a sacred value, like a human body organ, to routine trade-offs that pit two secular values against each other, such as money for a loaf of bread. Tragic trade-offs are a third type of exchange, that pit two sacred values against each other, for example when a doctor has to decide between two patients who will receive the one dose of life-saving medicine available. Tetlock (2002 & 2003), drawing on Durkheim (1925/1976), also argued that people's commitments to sacred values are such, that to even contemplate a taboo trade-off is an anathema. According to Tetlock when decision making involves sacred values, people do not function as intuitive economists but as intuitive moralists/theologians. Tetlock, Kristel, Elson, Green and Lerner (2000) proposed the sacred value protection model (SVPM) to account for decision making in

such contexts. The SVPM can be used to identify taboo trade-offs which are based on sacred values. Taboo trade-offs can be seen as boundary markers between the sacred and secular realms. From a more mainstream decision research perspective, Baron and Colleagues (Baron & Spranca, 1997; Baron & Leshner, 2000; Ritov & Baron, 1999) have done important studies on protected values, which is the name for sacred values in their body work. Similar to Tetlock, Baron and colleagues conceived of protected values as absolute values that are resistant to trade-off. Consequently, sacred or protected values can be thought of as one of the key elements constituting the moral limits on markets and studying them can shed light on where the boundary lies and what determines how fixed the boundary is between the non-market and market domains, that is, how permeable is the boundary between the sacred and the secular realms.

This thesis seeks to use the work of Tetlock and colleagues, Baron and colleagues as well as other psychologists to better understand the permeability of the sacred-secular boundary and the moral limits of markets. The thesis consists of three studies and a pilot study. Study 1 drew on Tetlock and colleagues's (Tetlock et al., 2000) SVPM to examine the effectiveness of different strategies to reframe taboo trade-offs as routine trade-offs or tragic trade-offs or both, in order to undermine the trade-off resistance of sacred or protected values. Study 1 found that sacred values were associated with taboo trade-offs but not routine trade-offs, supporting the idea that sacred values underlie judgements about the moral acceptability of market exchanges. In addition, taboo trade-offs associated with exchanging money for body organs for medical transplant, for adoption rights for babies, for jury service obligations and votes in political elections were examined and it was found that sacred values are strongly resistant to a variety reframing strategies, indicating the sacred-secular boundary is quite impermeable. This study raised a number of issues relating to the nature and content of the reframing strategies used and also the degree of abstraction of the taboo trade-offs.

Where Study 1 had investigated four taboo trade-offs, Study 2 focussed on one type, kidney markets, specifically, the exchange of money for a kidney from either a living or deceased person. Prior to undertaking Study 2 a pilot study was conducted to examine the relative strength of two taboo trade-offs associated with kidney markets. The results indicated that the distinction was marginally significant and was worth testing in a larger scale experiment.

Study 2 used a policy condition manipulation based on Sacchi, Riva, Brambilla & Grasso (2014) and explored the moral acceptability of two different types of kidney markets: live and cadaver. Study 2 also examined the effect of sacred value endorsement and tragic trade-off strength on the moral acceptability of cadaver and live kidney markets. Finally, the study also investigated the extent to which the judgements of participants were based on deontological and consequentialist reasoning. Deontological reasoning leads to moral judgements that are based solely on moral principles without consideration of consequences, whereas, consequentialist reasoning proceeds by considering only the consequences of different actions when forming a moral judgement. Study 2 found that markets for kidneys from deceased people were more morally acceptable than markets for kidneys from living people. In addition, exposure to policy information that reframed the kidney transaction from being a taboo trade-off to a tragic trade-off was associated with an increase in moral acceptability. Furthermore, evidence was found supporting the idea that sacred values play a key role in evaluating proposed market exchanges. Specifically, those participants that endorsed a sacred value proscribing a market for body organs reported significantly lower levels of moral acceptability for either type of kidney market than those participants that did not. Also following exposure to policy information that reframed a taboo trade-off as a tragic trade-off those participants that had endorsed the sacred value reported a much greater increase in moral acceptability than those that did not. Surprisingly, there was no difference in the extent of deontological reasoning on the basis of sacred value endorsement, however, as expected the extent of consequentialist reasoning was significantly higher for those

participants that did not endorse the sacred value proscribing body organ markets compared to those that did. In addition, if participants disapproved of kidney markets after exposure to policy information, the extent of deontological reasoning was significantly greater than the extent of consequentialist reasoning, and the opposite was found if participants approved of kidney markets. Overall, these findings indicated a degree of permeability between the sacred and the secular not evident in the first study suggesting that the trade-off resistance of sacred values is quite sensitive to context.

Study 3 drew on recent contributions to the theory of moral judgement and moral reasoning by Haidt (2001 & 2012) and Greene and colleagues (Greene, 2008 & 2013; Greene, Morelli, Lowenberg & Nystrom & Cohen, 2008; Greene, Sommerville, Nystrom, Darley & Cohen, 2001; Paxton, Ungar & Greene, 2011) and examined the role of time on moral judgements about the acceptability of live kidney markets. The study also expanded the range of sacred values to be assessed to see if other sacred values were implicated in decisions about markets for body organs. Finally, the study also explored the type of moral reasoning that participants engaged in when making their moral judgements using two methods (i) by asking participants to describe their reasons and (ii) asking them about their preferences for deontological and consequentialist reasoning. The study consisted of two experiments that were differentiated by ways of measuring moral judgements and moral reasoning. Study 3 found that manipulating time pressure through delaying how long participants had to wait before making a moral judgement about live kidney markets was not effective at changing the acceptability of the proposed market. In addition, the sacred value proscribing treating people as commodities was the only one that had any significant impact on moral judgements. A fairly high level of consistency was also found between participants' moral judgements and their reasoning about their judgements. Interestingly, evidence was found that participants that judged in favour of live kidney markets based their moral judgements on consequentialist considerations in the no-time-delay group which was against expectations but not consistent with Greene's dual process model of moral judgement and moral reasoning (Greene, 2008)

Overall, the thesis found that sacred values are an important element determining the moral acceptability of market exchanges and that moral judgements about markets exchanges are quite context sensitive such that at times the boundary between the non-market and market domains can appear quite inflexible but at other times more flexible. This in turn suggested that while the reach of markets is likely to keep expanding, moral concerns continue to have the potential to act as a significant brake on the pace of this expansion.

This chapter reviews the relevant literature on the moral limits of markets. Initially, the chapter reviews research from a range of disciplines outside of psychology including, philosophy, political science, legal studies and economics before turning its attention to the psychological literature on sacred or protected values and value trade-offs which provides a conceptual framework for examining the moral limits of markets. Chapter 2 contains Study 1 that uses the SVPM to explore the role of sacred values and taboo trade-offs in identifying the boundary between the non-market and market realms of society, and also tests the flexibility of the boundary and under what conditions the boundary will shift. Chapter 3 is a short chapter that contains the Pilot Study. Study 2 is presented in Chapter 4 and investigates the moral acceptability of market-based solutions to the shortage of kidneys for medical transplantation. The impact of time on the moral acceptability of live kidney markets is examined in Study 3 which is presented in Chapter 5. The thesis concludes with Chapter 6 that discusses the main findings of the studies, the weaknesses of the studies, as well as the implications for public policy and future research.

1.1. Literature Review

1.1.1. The Moral Limits of Markets

1.1.1.1 Perspectives from the social sciences

There have been a number of attempts by scholars since the 1970s to identify the boundary between the non-market and market realms. The *Spheres of Justice* by Walzer (1983), a political theorist, was a prominent early attempt to address this question. Walzer

argued that goods are always social and as such should be distributed according to their shared social meanings. Moreover, differences in social meanings create different spheres in which goods are distributed and each sphere has a certain distribution mechanism consistent with the social norms governing that sphere. When goods are distributed in each sphere using the appropriate mechanism, the end result is a society free of domination, in which complex equality prevails. In other words, equality is achieved not when everyone gets the same amount of goods, but when the goods they receive is based on the appropriate allocation mechanism being used in each sphere. However, if the mechanism of distribution of social goods in one sphere is allowed to prevail in another sphere it can lead to domination, which violates Walzer's socio-political goal of complex equality. For example, in a democracy votes are allocated to citizens on the basis of everyone being equal, and thus each citizen receives one vote. If money, the vehicle for distribution in the market sphere was allowed to operate in the sphere of citizenship it would lead to domination, with rich people being allowed to buy and cast more than one vote. This would in turn violate the sense of equality relevant to the sphere of citizenship. As a result markets for the buying of votes should be banned.

Walzer (1983) listed 14 things that he believed should not be exchanged for money in the United States (U.S.), and furthermore he believed this list was more or less exhaustive at the time he was writing. The list included, human beings, political power and influence, criminal justice, freedom of speech, press, religion and assembly, marriage and procreation rights, rights and duties of citizenship, political office, basic welfare services (such as basic education and police protection), desperate exchanges, prizes and honours, love and friendship, criminal sales in illegal goods and services, and Divine grace. However, at least one major scholar has pointed out that Walzer's "shared social meaning" approach is "pretty much hopeless" (Satz, 2004) as a framework for determining the moral reach of markets. Firstly, many social meanings are as much contested as they are shared, and this leads to spill-over between the spheres. For example, the social meaning of sex is contested with some arguing that it is only something that should occur between intimates in the non-market

sphere and others arguing that it is a commodity that can be exchanged for money in the market sphere. In societies where the first view has traditionally dominated, prostitution is illegal and black markets for sex operate. As the social meaning of sex has become more contested prostitution has been legalized in many societies and monetary exchange for sexual services no longer blocked. Secondly, Walzer's approach does not distil a parsimonious set of factors that can be used to work out the moral status of a particular market.

Similar to Walzer (1983), the philosopher Anderson (1993) proposed an approach to determining the moral limits of markets that is also based on the shared social meanings of goods. While Anderson does consider the impact on the personal attributes of freedom and autonomy when assessing whether a good can be traded, the focus remains primarily on the meaning of goods. Anderson argued that goods don't simply differ in how much we value them but also in how they are valued. In addition, these different ways of valuing are established by dialogue with others, and are based on shared norms that are constitutive of different spheres of social life. According to Anderson, whether a transaction should be blocked or not can only be determined by a detailed empirical evaluation of all the different ways in which the good is valued and the norms that inform the valuation practices.

Anderson has claimed that her approach is an advance on that of Walzer but Satz (2004) has pointed out that Anderson's approach suffers from the same weaknesses of Walzer's, in that firstly, many goods have multiple meanings that are socially contested, and secondly, no clear guidance is provided as to when to use what mechanism to resolve contests around meaning.

A different approach to the question is proposed by Radin (1996), a legal scholar, who shifted the focus away from the social meaning of goods towards different notions of personhood and human flourishing. According to Radin the perspective on personhood of neoclassical or orthodox economics is that personal attributes, relationships, and philosophical

and moral commitments, are alienable or transferable from the self and can be converted to a cash equivalent value. By contrast, Radin's view is that:

> Personhood should understand many kinds of particulars – one's politics, work, religion, family, love, sexuality, friendships, altruism, experiences, wisdom, moral commitments, character and personal attributes – as integral to the self. To understand any of these as monetizable or completely detachable from the person … is to do violence to our deepest understanding of what it is to be human. (Radin, 1996, p. 56)

This view of personhood led Radin to distinguish between personal property and fungible property. Personal property is property that is integral to the constitution of the self and should not be therefore alienable. For example, being socially connected through friendships is integral to the self and thus is classified as personal property and should not be for sale. In addition, personal property is incommensurable in that it cannot be measured using one type of metric. By contrast, fungible property is property that is not justifiably regarded as constitutive of the self and is therefore alienable from the self and is commensurable with other types of fungible property. For example, a piece of fruit is typically regarded as fungible property, because it is not crucial to the self and can be easily transferred between people without loss of value. Radin has suggested that the distinction between personal property and fungible property represents two ends of a continuum and can be used as a guide in determining what things can be sold or commodified and what should not be sold.

Radin acknowledged, however, that when making a decision about what justifiably can and cannot be sold in the real world, two effects will often have to be weighed-up; the double bind effect and the domino effect. The double bind effect refers to a situation where the decision to ban a market on the grounds that it would damage the welfare of a person may in fact make them worse off. For example, banning markets for sexual services on the grounds that they degrade sexual relationships between people, which are part of personal

property, may deprive a person of their best income-earning opportunity which in turn damages their family also regarded as personal property. The domino effect refers to a situation where allowing commodification in one area leads directly to commodification in other areas. This is a version of the "slippery slope" argument or what Radin calls "contagious commodification." (Radin, 1996, p. 95) For example, allowing a free market to operate for sexual services may lead over time to intimate sexual relationships being viewed in impersonal and detached terms, which may in turn lead to other intimate relationships being viewed this way. In attempting to balance these competing effects Radin has argued that the best solution may be neither commodification, nor non-commodification, but rather incomplete commodification, which will typically involve a highly regulated market-based solution. In fact, Radin has claimed that incomplete commodification represents an important way to maintain the non-market dimension of much of what we buy and sell:

> The way to a less commodified society is to see and foster the non-market aspect of much of what we buy and sell, to honour our internally plural understandings, rather than to erect a wall to keep a few certain things completely off the market and abandon everything else to market rationality. (Radin, 1996, p. 107)

One major criticism of Radin's approach is that just like the approach of Walzer and of Anderson, it is problematic because the social meanings of some goods are hotly contested, so too are the notions of personhood or human flourishing that are central in Radin's theory. Connected to this are disputes concerning what constitutes personal property and fungible property. This point is made forcefully by Robertson (1997) who noted that "labour" which is often menial and dehumanizing could be classified as fungible property but it becomes "work", and classified as personal property when through it a person gains dignity and self-esteem. On a positive note, it can be argued that Radin's notion of incomplete commodification provides a way forward by recommending that labour markets operate with appropriate regulation, such as minimum wage legislation and provision for collective

bargaining, and when this is the case the likelihood increases that people won't simply "labour" but will participate in "work".

The philosopher Michael Sandel (1998) initially articulated an approach to the moral limits of markets in the *1998 Tanner Lectures* (Sandel, 1998) and has recently provided a richer and more empirically illustrated account in Sandel (2012). According to Sandel (1998 & 2012) determining what cannot be sold in markets relies on two criteria. The first is inequality or fairness, and the second is corruption.

The first argument refers to situations where market exchanges are characterised by coercion and deals of desperation that generate extreme market outcomes, which most people would judge as unfair. Such situations emerge from initial or pre-market conditions that are highly unequal and this creates unequal bargaining power. To take kidneys as an example, the unequal distribution of income in most societies means that suppliers in a kidney market are likely to be the poor and buyers the rich, furthermore market exchanges will often be deals of desperation as poor people are coerced by their circumstances to sell a kidney. Consequently, a market for kidneys could be blocked on the basis of inequality and fairness considerations. It should be noted in this instance that the moral ideal that is violated is consent and is replaced by coercion. Sandel (2012) has pointed out that the argument against a market based on fairness and inequality does not appeal to the intrinsic properties of the thing to be exchanged, such as sacredness, rather it is based on the unfairness of the bargaining conditions. In other words, from this perspective, there is no intrinsic difference between a tomato and a human kidney, either can be traded in a market if the initial bargaining conditions are fair. Consequently, this is not an argument against commodification *per se* because it is possible that government policy initiatives could create initial conditions that are regarded as fair enough to allow a previously blocked exchange to occur. An example of this in terms of kidney exchanges, is if a government provided citizens with a social safety net generous enough that the poor did not have to sell a kidney to survive. Also if the government

operated an organ voucher bidding program, whereby the voucher available to a citizen increased in value as a citizen's income fell, such that the poor could effectively bid for a kidney, then a kidney market in such a society could become morally acceptable (Tetlock, 2000).

Sandel's (2012) second argument, corruption, is based on the idea that the intrinsic features of certain objects or activities and the associated cultural norms around their use, are degraded, diminished or fundamentally altered when they are subjected to a market driven valuation process. Two of the examples of corruption mentioned by Sandel (2012) are friendship and Nobel Prizes. Friendship is a relationship that is fundamentally altered if it is purchased for a monetary value; real friends don't count the cost of being involved with you. In a similar vein, a Nobel Prize is something awarded on the basis of a scholar's contribution to a field of study as assessed by an independent committee. If a Nobel Prize could be purchased for a price it would dramatically degrade and diminish it. To return to the example of kidneys, just as a human being should not be treated as a commodity, nor should a part of a person. Therefore, treating a kidney as marketable, turns a human being into a collection of saleable parts and so degrades and diminishes what it means to be human (Sandel, 2012). The corruption argument cannot be eliminated through government policies that make bargaining conditions fair. Sandel (2012) used the example of prostitution to show that even in a society without poverty and inequality, prostitution could still be banned if it was viewed as a "form of corruption that demeans women and promotes bad attitudes towards sex" (p.112).

At any point in time, given a society's set of cultural values, there will always be some things that cannot be sold in markets. Over time cultures undergo changes and some objects and activities that were previously permitted to be traded in markets become forbidden. For example, human slavery at the time of the Civil War in the United States of America and child labour in England during the Industrial Revolution. The reverse is also true with some exchanges that were forbidden becoming permitted. This was the case with commercial

trading on Saturday and Sunday in New Zealand that was banned for nearly all shops between 1945 and 1980, but after this period the ban was lifted. Sandel (2012) does not provide an exhaustive list of what can and cannot be sold in markets on the basis of his criteria of inequality and corruption, but rather argued that the boundary between the market and non-market realms must be sorted out by debate, on a case by case basis using his two criteria.

Satz (2010) is a philosopher who has brought a democratic egalitarian approach to the question of the moral limits of markets. Compared to Sandel, Satz has proposed a more comprehensive theory of what makes a market "noxious", to use her phrase. Satz has identified four parameters that must considered when determining if a particular market can be permitted; vulnerability, weak agency, extremely harmful outcomes for individuals, and extremely harmful outcomes for society. The first two parameters are pre-market factors because they relate to what people bring to the market. The bargaining position of a person when they come to the market can be so impoverished that they end up engaging in deals of desperation that leave them quite vulnerable. Asymmetric and imperfect information can lead to people entering into transactions that they would otherwise not enter into if they had better information. An example of this occurs when a living person, after assessing the risks, sells one of their healthy kidneys knowing they can survive with a single kidney. If they suffer a health shock such that their remaining kidney fails, they may be overwhelmed by regret about having sold their kidney. Weak agency is present because the person did not know their future health status and nor could they accurately forecast how they would feel when their health status declined. Weak agency is also present when a person not directly party to a transaction is directly or indirectly negatively affected by the transaction. An example of this is child labour, parents make a decision to send their child to work and this has significant impacts on their educational attainment, future earnings and wellbeing. In this situation the child suffers from weak agency. It should be noted that in an earlier version of the theory of noxious markets, Satz (2004) combined these two parameters into one called "unequal relations".

The second two parameters are associated with the outcomes of the market process. The first one relates to market outcomes that leave individuals in very poor circumstances. The second parameter refers to how certain market outcomes can undermine the foundation required for a society of equals to function, resulting in a system based on "humiliating subordination or unaccountable power" (p. 9). In other words, for Satz (2004), the operation of certain noxious markets undermines the key ideal of a liberal democracy that human relations must be conducted on the basis that "everyone's life is equally important" (p. 24). According to Satz, the most pertinent examples of this type of deleterious social outcome are child labour and bonded labour as they undermine an individual's capacity to function in society as an equal.

Satz (2010) argued that scoring high on any one of these parameters is enough to push a market into the noxious category. However, Satz does not rank these parameters in order of importance, and nor does she attempt to operationalize them mathematically so that noxious thresholds can be established. In addition, for Satz it also does not follow that a market deemed to be noxious should be banned. Rather the market may need to be regulated through government interventions such as price controls, or made fairer through redistributive policies that create more equal bargaining conditions. Ultimately, according to Satz, the theory of noxious markets functions primarily as a framework to assist people and society in making judgements about the moral acceptability of any particular market.

Satz (2004 & 2010) has acknowledged the work of the economist Ravi Kanbur in the development of her theory of noxious markets. Kanbur (2004) identified three parameters that must be considered in order to determine whether a market is "obnoxious", to use his phrase. The three parameters are inequality in market relations, weak agency and extremity of outcomes. The first and second parameters are same the as those identified by Satz (2004, 2010). However, the third parameter, extremity of outcomes, is different because Kanbur only discussed extreme outcomes for individuals, whereas Satz, as discussed above, included an

additional category of extreme harm to society. At one level this difference is consistent with neoclassical economics that is based on methodological individualism and argues that a social outcome is simply the sum of individual outcomes. Furthermore, Kanbur is committed to a consequentialist approach in assessing the three parameters with as little appeal to deontology as possible. Consequently, the impact of a market undermining a democratic ideal of equal standing among citizens is already captured by summing the negative impact on individuals, and to count it again, is at best redundant and at worst double counting. By adopting a consequentialist perspective Kanbur is claiming that our intuitive moral reactions of outrage and repugnance to certain markets are driven by their negative consequences rather than violations of moral rules. Kanbur (2004), as with Satz, argued that his approach provides a framework with which to assess market exchanges but does not provide pre-set thresholds for determining when agency is too weak, or bargaining inequality too high, or market outcomes too extreme. Rather, Kanbur argued that because "each market is obnoxious in its own way" (p. 24) each market must be examined empirically to determine if the market should be permitted, banned or permitted with major restrictions.

The economist Alvin Roth (2007) examined repugnance as a constraint on markets. Roth noted that repugnant reactions can be difficult to predict and cited the example of horsemeat in California where it is illegal for horsemeat to be sold for human consumption (although it remains legal to kill horses *per se,* and for horsemeat to be sold as pet food). However, horsemeat is legally eaten by people in many countries around the world. Notwithstanding the difficulties associated with explaining the repugnant reaction to the human consumption of horsemeat in California, Roth identified three factors that typically underlie repugnant reactions to monetary exchanges; objectification, coercion and slippery slope. Objectification results from assigning a price to an object or activity that results in it being classified as impersonal. Objectification, therefore, is the result of the same sort of process that Radin described as occurring when personal property is misclassified as fungible property, or what Walzer would identify as the effect of a particular good being distributed

using a mechanism from an inappropriate sphere. The other two factors have already been discussed in the work of other scholars, specifically, coercion in the work of Sandel, Satz and Kanbur, and slippery slope in the work of Radin.

In 1998, Roth won the Nobel Prize for Economics for work on market design. Roth has used market design to overcome the repugnance that many people feel about kidney markets. In the United States of America, as in all developed countries, there is a chronic shortage of transplantable kidneys. It is also illegal for monetary transactions to take place involving body organs. Roth and colleagues pioneered the development of markets for pairwise kidney exchange that increased the number of kidneys available for transplant (Roth, Sonmez and Unver, 2004, 2005). Roth et al. (2005) has shown that pairwise kidney exchange is able to take advantage of the gains available through market exchange of kidneys without activating the repugnance associated with monetary exchange. This is accomplished by matching two sets of incompatible donor-recipient pairs. Exchange would occur when the donor in one pair was compatible with a recipient in the other pair and vice versa. Consequently, a pairwise exchange would occur that would make possible two kidney transplants where previously none were possible. Furthermore, Roth has explored the possibility of creating pairwise exchange chains that would further reduce the degree of incompatibility on the donor-recipient register (Roth, 2015).

The orthodox economics position as represented by Becker (1976; Becker & Elias, 2007) and Trebilcock (1993) has typically argued that constraints on the reach of markets diminishes human welfare. Furthermore, Trebilcock (1993) argued that moral intuitions against certain market exchanges are best understood as ultimately deriving from market failure due to negative externalities, coercion as a result of monopoly power, and asymmetric and imperfect information. Furthermore, in most instances policy interventions to impose taxes, redistribute income and better define property rights are able to correct market failure

and thus diminish or even eliminate moral concerns about specific markets. Therefore, in the long term there are very few permanent limits on the reach of markets.

1.1.1.2. Summary

The review of the philosophical, legal and economics literature, has revealed a range of detailed approaches to determining the moral limits of markets. The works of Walzer (1983), Anderson (1993) and Radin (1996) were the most abstract and provided little by way of an operational framework for determining the boundary between the nonmarket and market realms. By contrast the work of Sandel (1998 & 2012) and even more that of Satz (2004 & 2010) and Kanbur (2004) provided a framework, that could be quite useful in assessing, on a case-by-case basis whether a particular market should be permitted to operate or not. Mainstream economists tend to see moral limits on markets as a by-product of market failure, thus if you can correct the market failure, there is no longer a limit. Many of the ideas discussed in this section will be drawn upon through the thesis, however, a more useful and empirically oriented approach is suggested by the psychological literature.

1.1.2. The Psychological Approach to the Moral Limits of Markets

1.1.2.1 Moral judgement

Moral judgements about what can and cannot be traded in markets identify the moral limits on the use of markets. The study of moral judgement has been a focus of inquiry for philosophers for centuries (Norman, 1998). However, over recent decades psychologists have begun to investigate moral decision making and their approach has been primarily empirical (Greene, 2013; Haidt, 2001; Kohlberg, 1969; Turiel 1983). According to the domain theory of social judgement, moral judgements can be distinguished from other judgements people make in social life based on the situation in which people make them (Bartels, Bauman, Cushman, Pizarro & McGraw, 2016; Turiel, 1983). Some decision contexts permit high levels of personal discretion because they are not associated with social conventions or moral rules, such as the decision about what to eat for breakfast. Other decision contexts are governed by

social norms and conventions that people are expected to follow and violations of these seldom elicit extreme emotional reactions or result in violators suffering condemnation by members of the social group. Examples of such conventions include, where to sit at a wedding ceremony or the conventional way to greet someone. By contrast, decision contexts in which moral rules dictate how people should behave involve judgements about good verses bad and right verses wrong, and there is little or no room for compromise. Furthermore, moral judgements that violate moral rules elicit extreme emotional reactions, such as moral outrage, and extreme behavioural reactions, such as acts of moral cleansing.

Moral rules vary across cultures, however, they tend to group around certain areas of social life including harming others, treating others fairly, respecting authority, loyalty to the group and notions of purity (Haidt, 2012). In the light of this, a reasonably broad definition of moral judgement is adopted in this thesis is based on Haidt (2001. p. 817) and defines moral judgements as appraisals or evaluations (good versus bad and right versus wrong) of actions or character of a person, that are made with respect to a set of virtues or values, held to be obligatory by a culture or a subculture. Of particular note in this definition are values, some of which, are regarded as sacred or protected, and therefore beyond compromise. The relationship between moral judgements and sacred or protected values is discussed in the following sections of this chapter.

Enlightenment philosophy has grounded the traditional view of moral judgement within psychology that moral judgements are formed following reasoning and reflection about a moral issue (Kohlberg, 1981; Turiel, 1983). Associated with this perspective has been an interest in what type of moral reasoning people engage in when forming a moral judgement. The two main alternative modes of moral reasoning are deontological and consequentialist. Deontological reasoning is based on the idea that moral judgements should be consistent with moral principles and these should be followed irrespective of the consequences. Moreover, these principles can be easily operationalized into moral rules, such as, thou shall not kill,

thou shall not steal or thou shall not lie, that people can quickly deploy in decision contexts. By contrast, consequentialist reasoning proceeds from the idea that an action is right or wrong, to extent that it produces good or bad consequences (Norman, 1998). Within philosophy and psychology these two ways of reasoning have been explored extensively through one particular type of moral dilemma, known as the trolley problem and its variants (Bauman, McGraw, Bartels & Warren, 2014; Foot, 1967; Edmonds, 2014; Greene, 2013; Thomson, 1985 & 2008). The trolley problem describes a situation in which a runaway trolley is about to kill five workers on a rail track, and the only way to save them is to pull a switch and divert the trolley onto a side track, where it will kill one workman. The moral judgement you are asked to make is whether you should pull the switch and divert the train or not. From a deontological perspective you should not kill anyone by your actions, therefore, you should not divert the train because it will result in someone being killed. Even though not diverting train results in five people dying your actions have not killed them. From a consequentialist perspective, you should make your judgement on the basis of which decision produces the most good, so you should divert the trolley and kill one person but save five. This decision produces better consequences than not diverting the trolley that kills five and saves one. There are many variations of the trolley problem that have been developed to investigate under what circumstances people are willing to act to kill one to save five (see Greene, 2013).

Recently within psychology a different view has emerged about the relationship between moral reasoning and moral judgement. This view has been proposed in somewhat different forms by Haidt (2001 & 2007) and Greene (Greene, 2008 & 2013; Greene & Haidt, 2002). Haidt (2001) has proposed the Social Intuitionist Model (SIM) and has argued that most moral judgements are generated automatically and are based on emotionally-driven moral intuitions or gut reactions to moral dilemmas. Furthermore, Haidt has proposed that moral reasoning when it occurs functions to primarily defend and rationalize the initial moral judgement. In Haidt's view only rarely does moral reasoning result in a revision of the original moral judgement.

Greene (2008 & 2013) has developed an approach to moral judgement and reasoning based on the dual-systems theory of information processing (Kahneman, 2011). Greene posited that when faced with a moral dilemma two systems are activated. System one (S1) processing is fast, automatic, unconscious and typically emotionally driven and is the basis on which a person will normally make an initial moral judgement. Moral reasoning is associated with system two (S2) processing and is a slower, moral effortful, conscious, cognitive process. Importantly, when a person makes a moral judgement following moral reasoning the decision is a result of S2 processing. This means that when moral judgements are made quickly, they tend to the product of intuitive processes occurring within S1, whereas, when they are made after a period of deliberation they are made as result of S2 processes. Furthermore, Paxton and Greene (2010) have also drawn on extant research (Greene et al., 2008) to argue that moral reasoning tends to follow consequentialist or utilitarian principles based on a comparison of costs and benefits. From Greene's dual-system perspective moral judgements generated from S1 processes tend to be based on deontological rules while those that result from S2 processes tend to be the based on consequentialist calculation. These ideas are drawn upon at different points in the thesis.

There are a range of different approaches to measuring moral judgements and these can be broadly classified as either explicit or implicit measures. Explicit measures include, self-report tasks that ask people whether certain actions are morally permissible or acceptable (Paxton, Ungar & Greene, 2011), or ask people what they think or feel about those that infract a moral rule and how they would behave towards them (Tetlock et al., 2000). Implicit measures include, the use of the implicit attitude test to measure the reactions to moral dilemmas (Paxton & Greene, 2010). The thesis only explores moral judgements using explicit measures only.

1.1.2.2 Sacred and protected values: Theories and evidence [1]

Within psychology there are two approaches that dominate the study of values that resist monetary valuation. The first approach, based on the concept of sacred values was developed by Tetlock and colleagues (Tetlock, 2000, 2002 & 2003; Tetlock et al., 2000; Tetlock, Peterson & Lerner, 1996) and draws on philosophy, anthropology and social psychology. The second approach, based on the concept of protected values was proposed by Baron and colleagues (Baron & Leshner, 2000; Baron & Spranca, 1997) and is derived from mainstream theories of judgement and decision making. All research in this area takes as it starting point either or both of these two approaches.

Drawing on William James (1890/1983), Tetlock (2002) argued that psychology is inherently functionalist. Moreover, in the area of judgement and decision making, the dominant metaphors describing how people function are that of the "intuitive scientist" and the "intuitive economist". The intuitive scientist seeks to understand causal relations in the world with the goal of maximizing the individual's chances of survival. By contrast, the intuitive economist confronts a world of finite resources that function to constrain the individual's goal of maximizing utility. Resource constraints force individuals to make choices between different options. In order to compare options decision makers require a single utility metric, and in nearly all applications of the theory this metric is money. From this perspective all objects, activities and relationships are fungible.

Tetlock (2002) contended that the social environment is a crucial determinant of the choices made by people because it provides the relational context in which trade-offs occur. Furthermore, Tetlock maintained that the intuitive scientist and intuitive economist metaphors do not adequately represent the constraints and goals decision makers confront in many social contexts. In the light of this, Tetlock proposed three additional metaphors – the intuitive

[1] The descriptions of the research of Tetlock and colleagues and Baron and colleagues draw on work done by the current author as an undergraduate with his current supervisor. The descriptions represent the current author's own work and were published as a working paper only (MacMillan & Wastell, 2008).

politician, the intuitive prosecutor and the intuitive moralist/theologian (herein intuitive theologian), which become operational in particular social environments. People adopt the framework of the intuitive politician when they face accountability pressures to "maintain social identities vis-à-vis significant constituencies in their lives" (Tetlock, 2002, p. 452). The intuitive prosecutor perspective is activated when people are making decisions, which call others to be accountable for their views and actions to the collective. Finally, people are viewed as functioning as intuitive theologians when they are seeking to protect the sacred values of their moral community from secular encroachments.

Tetlock (2002) acknowledged that the list of functional metaphors can be viewed as completely arbitrary. In order to theoretically constrain the number of functional metaphors, Tetlock drew upon Fiske's relational theory to provide an overarching theoretical framework (Fiske, 1992; Fiske & Tetlock, 1997; Fiske & Tetlock, 2000). In addition, Tetlock (2002) proposed three models with testable propositions that established how people function as intuitive politicians, prosecutors and theologians. The present research focuses on the sacred value protection model (SVPM), which accounts for how people function as intuitive theologians.

The SVPM defined a sacred value as "any value that a moral community implicitly or explicitly treats as possessing infinite or transcendental significance that precludes comparisons, trade-offs, or indeed any other mingling with bounded or secular values" (Tetlock et al., 2000, p. 853). It is important to note that sacred values are not restricted to those grounded on a belief in a deity or deities, but encompass all values believed to be of ultimate significance. In addition, Tetlock's SVPM acknowledged that sacred values vary within a culture, among its subcultures and between cultures. However, what is common in all cultures is sacredness, which gives rise to "psychological and institutional barriers to insulate sacred values from secular comparison" (Tetlock, 2003, p. 320).

In order to both theoretically elaborate and empirically test the SVPM, Tetlock et al., (2000) examined three forms of proscribed social cognition – forbidden base rates, heretical counterfactuals and taboo trade-offs. The present research focuses on taboo trade-offs and does not discuss further the two other forms of proscribed social cognition.

Decision theorists divide value trade-offs into three types. Routine trade-offs are the first type and they pit one secular value against another and are typically morally non-controversial, such as, the exchange of money for food. Second are tragic trade-offs, that set one sacred value against another and are cognitively and emotionally difficult to resolve. For example, there is only one dose of life saving medicine available, should it be given to patient A or patient B, each of whom will die without receiving the medicine? Finally, taboo trade-offs pit one secular value against a sacred value, for example, the exchange of money for body organs. Taboo trade-offs play a crucial role within the SVPM in demarcating the secular realm from the sacred. In socio-cognitive terms, taboo trade-offs represent the boundary between what is thinkable and what is unthinkable, and in economic terms the boundary between the non-market and the market realms.

Tetlock (2002) argued that when a person is confronted with a taboo trade-off it evokes a fierce moral reaction. In order to expound upon the basis of this strong moral response Tetlock drew upon moral philosophy, and in particular, upon the work of Joseph Raz (1986). Tetlock was careful to point out that this reaction is not simply grounded in the problem of interdimensional incommensurability, which arises when people try to compare the different attributes or dimensions of alternative choices. Examples of this include, someone trying to compare the health benefits of apples and oranges, or someone trying to decide between a car which has air-conditioning and a car which has leather seating. These comparisons are cognitively difficult but are resolvable if the different attributes or dimensions are convertible to a common metric such as money. In the context of taboo trade-offs, the problem of interdimensional incommensurability emerges because sacred values are

not easily converted to a monetary value, making comparison with the secular value difficult. However, for Tetlock the basis of the strong moral reaction is not the problem of interdimensional incommensurability, but of constitutive incommensurability. This occurs when one of the options in a trade-off is of a completely different order to the other, so that the problem is beyond that of measurement. In the context of taboo trade-offs, sacred and secular values cannot be compared without the sacred value being undermined. In other words, with sacred values "to compare is to destroy" (Tetlock et al., 2004, p. 249). Moreover, even the contemplation of such trade-offs is experienced as "morally corrosive" (Tetlock et al., 2004, p. 249). This is the sort of phenomenon that is captured by Sandel's (2012) notion of corruption, or in Radin's approach when something regarded as personal property is treated as fungible property, and in Walzer's or Anderson's approach when money is used to value goods from other spheres.

According to Tetlock (2000) people protect themselves from the moral contamination associated with contemplating taboo trade-offs by expressing moral outrage and engaging in acts of moral cleansing. Tetlock conceived of a moral judgement as being conceptually similar to an attitude. Adopting the traditional approach to attitudes (McGuire 1969; cited in Tetlock, 2000), Tetlock proposed that a moral judgement, and in particular moral outrage, has a three dimensional structure; cognitive, affective and behavioural. It is important to recall Tetlock's emphasis on sacred values as values held by moral communities, because this social aspect is important to understanding moral outrage in the SVPM. All three dimensions of moral outrage are primarily construed from the perspective of a person as an observer of another, who allows, or who is thinking of allowing, a taboo trade-off to occur. The cognitive dimension refers to attributions of insanity and irrationality to the perpetrator. The affective dimension captures the feeling of being offended, angry, upset and saddened by the actions of the perpetrator. The desire to sanction and/or sever contact with violators of sacred values is captured by the behavioural dimension.

The SVPM proposed that people experience contamination by simply contemplating taboo trade-offs. This gives rise to a desire to cleanse themselves by engaging in acts which reaffirm their commitment to the sacred values of the moral community. Examples of acts of moral cleansing include, donating to a charity that cares for orphaned children after contemplating a proposal to allow a market for babies in need of parents to operate, or increasing your commitment to your local church after contemplating a proposal for the legalization of prostitution. Together, moral outrage and moral cleansing serve both intrapsychic and interpsychic functions. Intrapsychically, the goal of outrage and cleansing is to restore a person's sense of moral worth. By contrast, the interpsychic function is to provide reinforcement for the moral order of the community (Tetlock et al., 2000).

Fiske and Tetlock (1997 & 2000) drew upon Fiske's (1992) relational theory of social life to elaborate why taboo trade-offs give rise to moral outrage. Fiske (1992) proposed that there are four elementary forms of human relationships; communal sharing, authority ranking, equality matching, and market pricing. Communal sharing is structured according to everyone in the social group being equal and consequently having access to whatever they need irrespective of functional status. Authority ranking is based on ordinal or functional differences existing between group members, and equality matching is marked by relationships based on like-for-like or tit-for-tat reciprocity. By contrast, market pricing is a social structure that makes everything comparable because any entity can be measured using a common metric. A trade-off is judged as taboo when two different relational modes are being used in the evaluation process. For example, exchanging money for a kidney is typically judged as taboo because market pricing is being used to structure a relationship usually associated with communal sharing in which case kidneys are distributed according to need. By contrast, a pairwise kidney exchange between two incompatible donor-recipient pairs that become compatible following the exchange, is not judged to be taboo because it is based on the tit-for-tat, or kind-for-kind reciprocity associated with equality matching based relationships. Tetlock (McGraw, Tetlock and Kristel, 2003; McGraw & Tetlock, 2005) found

further support for this understanding of taboo trade-offs in studies that examined symbolic ownership and other aspects of consumer behaviour.

The predictions of the SVPM regarding moral outrage and moral cleansing have been supported by empirical research. Tetlock et al. (2000), Experiment 1, recruited participants belonging to different political orientations relevant within the political scene of the United States – libertarians, conservative Republicans, liberal Democrats and radical socialists. Participants were exposed to both routine trade-offs, such as paying someone for food or to clean your house, and taboo trade-offs, such as, paying someone for a body organ for a medical transplant or for votes in an election for political office. Taboo trade-offs evoked significantly higher moral outrage than routine trade-offs for all groups except libertarians. Contemplation of taboo trade-offs also elicited a significant moral cleansing effect for liberal Democrats and conservative Republicans. In addition, there was a significant correlation between moral outrage and moral cleansing scores, indicating that both were dimensions of the underlying moral reaction or judgement of a taboo trade-off.

Tetlock et al. (2000), Experiment 2, examined the relationship between taboo and tragic trade-offs. The taboo trade-off involved a person, Robert, who was the Director of Health Care Management at a hospital who had to decide whether to give a little boy, Johnny, a liver transplant costing $1,000,000 or spend that money on other hospital needs, such as equipment and raising salaries to recruit more talented doctors. The tragic trade-off required Robert to decide whether to give the transplant to Johnny or to another equally sick young boy. Moral outrage was significantly higher if the decision maker in the taboo trade-off scenario chose the secular value rather than the sacred value. Furthermore, for taboo trade-offs, if participants were told that the decision maker found the choice difficult rather than easy, moral outrage was significantly greater, whereas for tragic trade-offs the reverse was true. The relationship between moral outrage and decision difficulty was qualified by the speed with which the decision was made. In particular, moral outrage was strongest if the decision maker made the

choice easily, quickly and in favour of the secular value, and was lowest when the decision was taken easily, quickly and in favour of the sacred value. By comparison, moral outrage was low to moderate for tragic trade-offs, irrespective of which of the sacred values was chosen. In addition, moral outrage was less if the choice was described as difficult and required lengthy deliberation, compared to being described as easy and quick. In other words, it is appropriate to experience a tragic trade-off as difficult, requiring lengthy contemplation, but it is inappropriate to do the same over a taboo trade-off, irrespective of which value is chosen. However, it is an anathema to easily and quickly choose the secular value in a taboo trade-off. The work of Tetlock and colleagues shows that sacred values underlie moral judgements against permitting market exchanges.

Baron and colleagues (Baron & Leshner 2000; Baron & Spranca; 1997; Ritov & Baron 1999) have done extensive work on protected values, which is the name used for sacred values in this body of research. Baron and Spranca (1997) defined protected values as absolute values that are accordingly trade-off resistant. Furthermore, they proposed that protected values are not based on consequentialist considerations but on deontological rules, which prohibit certain types of action. Baron and Spranca (1997) defined deontological rules as rules which:

> specify that certain actions should be taken or not taken as a function of a description of the action itself. The description may refer to the way an action is performed, its motives, its antecedent conditions, and even its immediate consequences... But, if the description includes all the consequences and nothing else, then the rule becomes effectively consequentialist. (p.3)

From this perspective, protected values have infinite value and their violation implies infinite cost, rendering trade-offs impossible. Baron and Spranca (1997) proposed and established empirically that protected values have three key properties: quantity insensitivity, agent relative, and moral obligations. Protected values are quantity insensitive, in the sense

that if a person has a protected value about preventing the extinction of bird species, then an act that prevents the extinction of one species of bird is as valuable as an act preventing the extinction of 10 species. In addition, protected values are agent relative and impose moral obligations, which means that they prohibit the agent from performing actions although the agent is not obligated to stop others from performing the prohibited act. In other words, protected values are subject to omission bias, in that actions are prohibited that harm the protected value. By contrast, actions that prevent harm are not required.

Baron and Spranca (1997) explicitly forged links with the work of Tetlock and colleagues on sacred values. More specifically, they examined whether protected values evoked anger, finding that significantly higher levels of anger and irritation are experienced when people evaluate trade-offs involving protected values compared to evaluating trade-offs about non-protected values. This is consistent with the findings of Tetlock et al. (2000) concerning moral outrage and routine versus taboo trade-offs. Therefore, the work of Baron and colleagues also suggested that protected values could underlie judgements about taboo trade-offs that determine the boundary between the market and non-market realms.

Research by Tanner and colleagues (Hanselmann & Tanner (2008); Tanner, 2009; Tanner, Medin & Iliev, 2008) has extended and clarified the original contributions of Tetlock and Baron. Hanselmann and Tanner (2008) found that taboo trade-offs elicited high levels of negative emotion but were perceived to be easy to resolve. By contrast, making decisions about tragic trade-offs were perceived to be very difficult and also evoked high levels of negative emotion, but not as high as taboo trade-offs. Both these findings were consistent with Tetlock et al. (2000). In addition, as discussed above, it is important to note that Tetlock et al. (2000) assessed decision difficulty from the point of view of the participant as observer of someone making a decision. In comparison, Hanselmann and Tanner (2008) examined decision difficulty by placing the participant in the position of decision maker, who self-assesses the difficulty they experienced in deciding about trade-offs. Using either strategy for

assessing decision difficulty led to the same conclusion, that in normative terms, decisions about taboo trade-offs must be made without much deliberation.

Tanner, Medin and Iliev (2008) reported a strong relationship between protected values and deontology. Specifically, they assessed whether individuals utilized a more deontological or consequentialist mode of reasoning when making decisions. Furthermore, they reported that endorsement of protected values is significantly correlated with a deontological orientation but uncorrelated with consequentialist reasoning. These results provided support for Baron and Spranca's (1997) position that protected values are based on deontological rules. In addition, it is suggestive that reframing taboo trade-offs as routine trade-offs may not be persuasive, if the reframing relies on alleviating the negative consequences associated with the sacred value being violated. Another important finding of Tanner, Medin and Iliev (2008) was that deontological and consequentialist orientations were not directly opposed to each other, such that people either engaged in deontological reasoning or consequentialist reasoning. While this was true for some people, who were classified as either high in deontology and low in consequentialism or low in deontology and high in consequentialism, there were other groups that were low in both or high in both. In addition, the pattern of responses was not significantly different between those that were high in both deontology and consequentialism and those that were high in both protected values and consequentialism. This indicated that for some people holding protected values and scoring high on deontological orientation was not inconsistent with utilizing consequentialist reasoning.

Tanner (2009) examined the impact of sacred values on decision making about the environment and found that endorsing sacred values about the environment was associated with trade-off resistance, deontological focus, a preference for actions and a greater distinction between acts and omissions. These results are consistent with the key properties of sacred or protected values identified by Baron and Spranca (1997).

An important contribution of Tanner and colleagues has been the development of a new measure of sacred values that they piloted in Tanner, Medin and Ilev (2008) and Hanselmann and Tanner (2008), and formally launched in Tanner, Ryf and Hanselmann (2009). This new measure involves 5-items that are measured on a 7-point scale and provides researchers with a scale measure of sacred values that can be used as an alternative to the nominal measures developed by Baron and Spranca (1997) and Ritov and Baron (1999) and used by many researchers in this area (see Tanner, 2009; Bartels and Medin, 2007; Bartels, 2008).

Lichtenstein, Gregory and Irwin (2008) investigated participant decisions about taboo trade-offs compared to non-taboo trade-offs and found that taboo trade-offs were rated as being less morally acceptable and as generating greater negative affect. Moreover, participants were less willing to assign a monetary value to taboo trade-offs. Mandel and Vartanian (2008) using variants of the trolley problem found that taboo trade-offs elicit less moral conflict and more confidence than tragic trade-offs. All of these findings are consistent with those of Tetlock and colleagues, Baron and colleagues, and Tanner and colleagues.

Bartels (2008) found that people endorsing protected values indicated significantly less approval for harming the protected resource based on a cost-benefit analysis, than people not endorsing protected values. In addition, it was revealed that when moral dilemmas were evaluated jointly rather than separately, people that had endorsed a protected value about a resource were more likely to alter their judgement. In addition, people who had endorsed a protected value about a resource tended to care not just about not harming it but also about the overall consequences for it, and this was evidenced by decisions of those who endorsed a protected value being at least as utilitarian as those who did not endorse the protected value. This finding would seem to provide support for Tannner, Medin and Iliev (2008) that found, as reported above, participants who were high in both deontology and consequentialism had similar decision patterns as those high in protected values and high in consequentialism. In

addition, these findings also supported those of an earlier study by Bartels and Medin (2007) that revealed for some people, holding a protected value is consistent with caring about the net consequences of an act impacting on that thing, thus indicating that holding a protected value is not inconsistent with consequentialist reasoning. Bartels (2008) was keen to point out, however, that this research does not show that protected values are based on consequentialist principles instead of affect-backed deontological rules. Rather the results simply indicated that in domains where protected values are often held, people may care about consequences as well.

A very different approach to the study of sacred and protected values has been undertaken by Ginges, Atran and colleagues (Atran & Axelrod, 2008; Dehghani, Sachdeva, Atran, Ginges and Medin, 2009; Ginges & Atran, 2009; Ginges, Atran, Medin & Shikaki, 2007; Sheikh, Ginges & Atran, 2013). The previously reported research is almost exclusively based on samples of university students from Western countries, by contrast the Atran, Ginges and colleagues have conducted both traditional studies and field studies of sacred values associated with political conflicts involving participants that were highly engaged with the conflict, known as devoted actors. They found that when participants who endorsed a sacred value about some issue associated with the conflict were offered a substantial material incentive to trade it off, they responded with profound moral outrage in a manner consistent and at times even more extreme than that found by Tetlock et al. (2000). For example, Ginges and Atran (2009) studied a sample of students who attended madrassah schools in Indonesia. The overwhelming majority of these students endorsed sharia law as a sacred value. Participants were exposed to two taboo trade-offs. The first trade-off promised recognition from the United States and the European Union for the Muslim Brotherhood to lead a government if they won a fair and free election, on the condition that they agreed that Indonesia would not be ruled in strict accordance with sharia law. The second taboo trade-off added a material incentive to the first trade-off in the form of a privileged trade agreement that would bring significant economic benefits to Indonesia. Participants were required to rate

their reactions to the proposed trade-offs in terms of whether they would support a suicide bombing campaign to oppose the deals. Ginges and Atran (2009) found that among those students that endorsed sharia law as a sacred value, support for suicide bombings was significantly higher for the taboo trade-off that had the added material incentive, compared to the one without it. They labelled this the "backfire effect" because adding a material incentive to get people to reduce their commitment to their sacred value had backfired and resulted in a strengthening of their commitment.

1.1.2.3 The neuroscience of sacred values

Berns, Bell, Capra, Prietula, Moore, Anderson, Ginges and Atran (2012) conducted the first neuropsychological study of sacred values. They noted that sacred values can be interpreted in utilitarian or deontological terms. From a utilitarian perspective sacred values give rise to rules proscribing certain actions on the basis of the consequences that would follow if they were violated. By contrast, from a deontological perspective sacred values give rise to "rules that circumscribe certain actions independently of expected outcomes…and we act in accordance with them because they are the right thing to do". (p. 754)

Berns et al. (2012) pointed out that in normal pen and paper experiments, when participants are asked to judge the moral permissibility of killing someone, a person judging it to be wrong, may be doing so for deontic reasons – because it is wrong in itself – or for consequentialist reasons – it is wrong because of the consequences for the victim and the perpetrator. Furthermore, if asked to explain their judgement, they may be influenced by the "context being studied and what are perceived as socially acceptable reasons for doing things". (p. 755) According to Berns et al., functional magnetic resonance imaging (fMRI) represented a way of overcoming the limitations of pen and paper experiments because patterns of brain activity can be recorded when participants are considering trading off a personal value for money. Those values participants refuse to trade-off are identified as sacred values. Furthermore, the areas of the brain activated at the time the trade-off was being

considered are identified as being associated with sacred values. Existing research cited by Berns et al. (2012) had already identified regions of the brain associated with deontological reasoning or consequentialist/utilitarian reasoning. The results clearly showed that the regions of the brain most active when assessing trade-offs involving sacred values, the temporoparietal junction and the ventrolateralprefrontal cortex, are also those associated with retrieval and processing of semantic or deontic rules. Therefore, this study provided the first neuropsychological evidence for sacred values being based on deontological rules as argued by Baron and colleagues (Baron & Spranca, 1997; Baron & Leshner, 2000).

Another study by Duc, Hanselmann, Boesiger and Tanner (2013) was able to establish three sets of neural correlates that distinguished between routine, taboo and tragic trade-offs principally related to the emotion processing parts of the brain. They also used the relatively new sacred value measure developed by Tanner et al. (2009) to classify participants as either high or low in sacred value endorsement, and found significant interactions between trade-off type and the sacred value groups. They also reported some tentative evidence when examining taboo trade-offs that implicated regions of the left anterior temporal lobe that have been found to be important in distinguishing intuitive deontological judgements from counterintuitive utilitarian choices (Kahane, Wiech, Shackel, Farias, Savulescu & Tracey, 2012).

The psychological research reviewed so far has demonstrated that sacred values are values that resist trade-off against a secular value. In particular, they resist being converted to a monetary equivalent. Furthermore, sacred values are protected by the deployment of rules, specifically deontological rules that proscribe certain trade-offs, and the rules are supported by the strong emotions. Specifically, moral outrage and anger are activated when a sacred value is threatened. This understanding of sacred values is supported by brain imaging studies, traditional experiments, either laboratory or internet based, and by field studies. Consequently, taboo trade-offs can be thought of as the boundary markers between the sacred

and the secular realms, and in the context of the moral limits of markets they are the boundary markers between the non-market and market realms. An important issue is how resistant are sacred values to trade-off, that is, how permeable is the sacred-secular barrier.

1.1.2.4 The trade-off resistance of sacred and protected values

An important issue raised by Tetlock (2000 & 2003) is the strength of the taboo around sacred values. Thus, does a sacred value imply an absolute taboo against a trade-off with a secular value, or is it possible, that under certain social conditions, sacred values can be relinquished? By definition it would be expected that the answer to this question is "no", however, research by Tetlock (2000) has suggested otherwise. Tetlock (2000) asked 155 undergraduates to consider permitting regulated markets for (i) the buying and selling of body organs for use in medical transplants, and (ii) adoption rights for babies and children in need of parents. Ninety percent of participants objected to the proposals and expressed strong moral outrage towards these taboo trade-offs, which would have allowed monetary values to be assigned to babies and body organs (Tetlock, 2000).

In order to understand what made these proposed value trade-offs taboo, Tetlock (2000) tapped the "cognitive substrate" of people's moral outrage by asking those that had objected to the proposals to provide reasons for their decisions. Sixty percent of people made statements to the effect that allowing such exchanges was degrading, unacceptable, and dehumanizing, and did not require further justification (Tetlock, 2000). The other 40% of people provided reasons that were primarily associated with concerns about coercive exchanges and the inequitable outcomes that such markets can generate. For example, the market for body organs would be characterized by coercion and extreme outcomes, with the poor supplying the market, and the rich doing the buying. Furthermore, the poor would offer organs cheaply, because they were dealing out of desperation. A reason less given was that other solutions to shortages of body organs and of adoptive parents had probably not been adequately explored.

From the reasons provided, Tetlock (2000) created a set of policy initiatives which alleviated the concerns associated with each market, and presented them to the participants, who in the light of these, were asked to re-evaluate the permissibility of markets for body organs and adoption rights. To illustrate, the suite of policies provided for the market for body organs is given below:

> Would you still object to markets for body organs: (a) if you lived in a society that had generous social welfare policies and never allowed the income of a family of four to fall below $32, 000 per year (explaining the concept of inflation adjusted 1996 dollars)?; (b) if society provided the less well-off with generous "organ-purchase vouchers" that increased in value as recipient income decreased (the poorer the recipient, the larger the voucher)?; (c) if it could be shown that all other methods of encouraging organ donation had failed to produce enough organs and that the only way to save large numbers of lives was to implement a market for body organs? (Tetlock, 2000, p. 253)

Tetlock (2000) reported that the percentage of people objecting to the proposed markets fell from 90% to 60% after exposure to the policy revision information. Consequently, Tetlock concluded that for the majority of people, sacred values were taboo in the sense of representing an absolute prohibition. However, for a significant minority of people in the study (30%) sacred values did not remain taboo, and were capable of being traded-off under the right conditions. In other words, these people were "neither vigilant nor resolute defenders of the sacred" (Tetlock. 2003, p. 322). According to Tetlock (2003) these findings are consistent with a feature of the SVPM called the reality-constraint hypothesis which proposes that people are sincere when they endorse a value as sacred but are also having to constantly attend to the resource constraints they live under in the secular realm. Consequently, the SVPM predicts that when people are confronted with resource constraints and the cost of maintaining their sacred value rises they become open to rhetorical reframing strategies that convert taboo trade-offs into routine or tragic trade-offs. The reframing is rhetorical because if

accepted it still facilitates the trading-off of a sacred value for a secular value. By contrast, actual tragic trade-offs do not involve this co-mingling of sacred and secular values but rather involve a strict trade-off between two sacred values within the sacred realm as illustrated by the example given earlier, of the doctor who must decide which of two critically ill patients should get the only available dose of a life-saving drug.

An unanswered key question in Tetlock (2000) is what caused people to change their minds? The policy revision information effectively reframed the taboo trade-off in two ways. As pointed out by Tetlock (2003) policy initiatives (a) and (b) reframed the taboo trade-off as a routine trade-off, in effect secularizing the sacred side of the exchange. The logic of the argument is that a significant percentage of participants did not regard the assigning of a monetary value to body organs or babies, in and of itself, as a violation of a sacred value. From this perspective it is as though body organs and babies are not intrinsically different to other commodities. Rather, concern about the unequal bargaining positions that could lead to a coercive decision-making environment and generate extreme outcomes as a result of the market process, was the source of their moral outrage. Consequently, policy initiatives that minimized the likelihood of coercion and of extreme outcomes made regulated markets for body organs, and babies and children in need of parents, acceptable.

By comparison, policy initiative (c) reframed the taboo trade-off as a tragic trade-off by sacralizing the secular side of the trade-off. The logic behind such a reframing accepts that assigning a monetary value to body organs or to babies violates a sacred value against the commodification of the human body, and that allowing such exchanges is intrinsically morally offensive. However, preserving human life is also a sacred value and policy initiative (c), in effect, turns the market into a vehicle for saving human life. Hence, the trade-off is now tragic, pitting one sacred value against another. As discussed above the moral outrage evoked by a tragic trade-off is low to moderate compared to the high levels evoked by taboo trade-

offs. Consequently, it is reasonable to expect that some participants who initially objected to markets for body organs or for babies would now find such proposals acceptable.

In the light of this, what remains unclear in Tetlock (2003) is to what extent did the participants who changed their minds do so because of (i) routine reframing or, (ii) tragic reframing or, (iii) the combination of both types of reframing? The argument concerning option (iii) is that once the trade-off is reframed as tragic, people may decide between the two sacred values on the basis of the consequences of choosing one or the other. In the body organs example, because policy initiatives (a) and (b) alleviated concerns about the possible coercion and extreme consequences associated with market exchange, more people may have been willing to choose the sacred value of preserving life over the sacred value of resisting treating people as commodities. The description of the method and the reported results in Tetlock (2000) made it difficult to discern which reframing strategy was effective and to what degree. However, the research question Tetlock was focused on concerned the trade-off resistance of sacred values and not which reframing strategy caused the trade-off. An earlier study by the present author as an undergraduate found that routine reframing of taboo trade-offs did not on its own result in any significant change in people's moral judgements. However, this study did not examine the effectiveness of tragic reframing or a combination of routine and tragic reframing information (MacMillan & Wastell, 2008). Therefore, as it stands, the issue of which reframing strategy caused people to change their minds is unresolved. The present research, particularly Study 1, is focused on gaining a greater understanding of this finding.

Baron and colleagues approached the study of judgement and choice from a consequentialist perspective. Consequentialism proposes that people should base decisions on an assessment of the consequences that flow from an act, rather than on an assessment of the act itself (Gandjour & Lauterbach, 2003). Protected values are problematic for consequentialism because they are values held by people independent of their consequences.

In order to deal with this problematic aspect, Baron and colleagues (Baron & Leshner 2000; Baron & Spranca 1997) argued that many protected values are unreflective overgeneralizations, and as such represent biases in decision making. Specifically, in earlier work Baron (1994) argued that deontological decisions "arise from overgeneralization of rules that are consistent with consequentialism in a limited set of cases…[that are now] detached from their original purposes" (Baron, 1994, p. 1). From this perspective, people have not properly thought through the implications of upholding a protected value in all circumstances. Moreover, if challenged, people will often agree to trade-off the value, thus rendering it of less than infinite value. From a consequentialist perspective, the problems associated with protected values disappear once they are traded-off. An explicit or implicit price can be calculated and a cost-benefit analysis performed to determine the net benefit or value of the action previously prohibited by the protected value. In short, the problem that protected values represent for consequentialism disappears.

Baron and Leshner (2000) explored how willing people are to change their minds about protected values. Specifically, Experiment 1 revealed that a large percentage of participants could articulate circumstances in which the benefits associated with violating a value they have declared protected, were great enough to make the violation acceptable. Despite this, however, only 10% of protected values were reclassified as non-protected values. This result supported Tetlock's (2000) findings on the limited permeability of the sacred-secular barrier, although the percentage change is much smaller (10% vs 30%). However, as with Tetlock (2000) it was not possible to discern from the results whether the articulated counterexample, was a routine or tragic trade-off.

Baron and Leshner (2000), Experiment 5, examined the way conflict between two protected values was resolved. From the perspective of Tetlock's SVPM this experiment examined the way tragic trade-offs are resolved. In 66% of cases participants believed that it was not immoral to trade-off one protected value against another. This finding is consistent

with the low to moderate moral outrage evoked by tragic trade-offs reported by Tetlock et al. (2000). Experiment 6, found that 38% of participants who endorsed protected values were willing to violate them if the probability of benefit was high (1.0) and the probability of harm was very low ($1/10^7$). However, it also indicated that 62% continued to endorse their protected values under such circumstances. These findings are also consistent with Tetlock (2000) in that the majority of participants maintained their sacred values and a significant minority did not, when challenged by different trade-off scenarios. Importantly, similar to Tetlock (2000), because of aggregated reporting, it was impossible to tell what type of trade-off caused people to no longer endorse their protected values. For example, one benefit may have represented an economic gain, such as an increase in profit, which is a secular value, while another benefit related to saving starving children, a sacred value, and responses to both benefits, were combined.

On the basis of these findings Baron and Leshner (2000, p. 193) concluded that protected values are "strong opinions, weakly held". Lichtenstein, Gregory & Irwin (2007) have challenged this conclusion because in all the experiments conducted by Baron and Leshner (2000) the majority of participants didn't change their mind about protected values. However, it is the case that a minority of participants did change their mind and it is not possible to determine if this change was due to the taboo trade-off being reframed as a tragic or routine trade-off.

Ginges and Atran (2009) noted that the dominant model in political psychology, negotiation studies, and at all level of government policy making, is the rational actor model which assumes that the choices actors make in political conflicts are "instrumentally rational, and driven by a strict cost-benefit analysis" (p. 194). By contrast, Ginges and Atran (2009) developed an approach to sacred values by conducting field experiments with people that are actively engaged in a real world political conflict that they call "devoted actors". Ginges and Atran (2009) questioned accounts of sacred or protected values put forward by Tetlock and

colleagues (Tetlock, 2003; Tetlock et al., 2000) and Baron and Spranca (1997) because they were derived from studies that almost exclusively draw their samples from undergraduate populations at Western university campuses. Ginges and Atran pointed out that it is unlikely that many of the participants would hold sacred values in the sense defined by either Tetlock or Baron as having infinite value, and to which participants feel infinite commitment. Ginges and Atran have drawn attention to the fact that people can rank sacred values relative to each other and if they can do this they are not of infinite value. They supported this claim by reporting that their samples of Jewish settlers, Palestinian supporters of Hamas, and Indonesian madrassah students, had no trouble ranking the sacred values they hold. Therefore, Ginges and Atran subtlely refocused the definition of sacred values away from claims of infinite or transcendental value, and have emphasised that sacred values are values that cannot be compared to secular values. In other words, when someone endorses an option on a sacred value measure similar to Ritov and Baron (1999) that says this value cannot be compromised no matter what the cost or how great the benefit, what they really mean is that this sacred value cannot be measured using an instrumental or secular metric.

According to Atran and Ginges (2009) their approach generates different predictions than Tetlock (2003) about the circumstances in which people will be inflexible or flexible about sacred values. Whereas Tetlock (2003) argued that sacred values could be traded off as a result of reframing a taboo trade-off as a routine trade-off due to the operation of the reality-constraint hypothesis, Ginges and Atran, predict the opposite due to the operation of the "backfire effect" described earlier in the example of madrassah students in Indonesia. In addition, people are likely to be flexible about sacred values in a tragic trade-off situation because as Ginges and Atran have argued sacred values can be ranked. Such tragic trade-offs typically do not represent a breach of the sacred-secular barrier but rather represent changes within the sacred realm. An example of this from Atran and Ginges (2009) is Palestinian refugees faced with a tragic trade-off involving giving up the right of return to their homes and lands in Israel in return for their own Palestinian state made up of a large percentage of

the West Bank. In this example, if a trade-off is agreed no breach of the sacred-secular boundary has occurred. However, if the tragic trade-off is a result of rhetorical reframing of a taboo trade-off, as was the case in the proposed market for body organs in Tetlock (2000), it is possible for the sacred-secular border to be breached because commodification would have occurred. In other words, the moral limit of the market would have moved in favour of the market realm.

Overall, the evidence reviewed here indicated that while a significant minority of participants will alter their moral judgement about sacred values, the overwhelming majority will not. Apart from such a finding being consistent with trade-off resistance, which is a fundamental feature of sacred values, it is also consistent with the new view of the relationship between moral reasoning and moral judgement that has recently been proposed by Haidt (2001, 2007 & 2012) and Greene (2007 & 2013; Greene & Haidt, 2002) and was discussed earlier in this literature review. Recall that Haidt's (2001 & 2007) SIM proposed that moral judgements are based on moral intuitions, which are driven by fast, automatic and emotional processes. Moral intuitions are experienced by a person as a sense of good-or-bad or like-or-dislike in relation to a particular moral context. By contrast, moral reasoning is a more controlled cognitive process that is conscious and less emotionally driven. According to Haidt (2001) it is possible for moral reasoning to lead to a new moral judgement that modifies the initial moral judgement but this is not what normally occurs for ordinary people, and is more common among people with specific training, say in philosophy. In other words, for most people, in most situations, moral reasoning does not function like a judge dispassionately weighing the pros and cons of a moral judgement, rather, it tends to function like an attorney defending the initial moral judgement against contrary arguments.

Recall also Greene (2008 & 2013) who has posited that when faced with a moral dilemma both S1 and S2 are activated. System one (S1) processing is fast, automatic, unconscious and typically emotionally driven and is the basis on which a person will normally make an initial

moral judgement. Moral reasoning is associated with system two (S2) processing and is a slower, moral effortful, conscious, cognitive process. Paxton and Greene (2010) defined moral reasoning as "conscious mental activity through which one evaluates a moral judgement for its (in)consistency with other moral commitments, where these commitments are to one or more moral principles and (in some cases) particular moral judgements" (p. 6). Implicit in this definition is that people are motivated to be logically consistent in their moral commitments and judgements. Therefore, if Haidt's (2001) SIM provides the most accurate account of the relationship between moral judgement and moral reasoning it may be difficult to shift people away from their initial moral judgements because moral reasoning tends to be oriented towards rationalizing moral judgements. By contrast, if Greene's dual-process model is more correct there is greater scope to shift people away from their moral judgements even in the face of moral reasoning seeking consistency with other moral judgements. Thus, if Greene is correct the barrier between the sacred and the secular realms may be more permeable than if Haidt's model is more correct. One way of manipulating the decision context in which people make moral judgements is to adjust the amount of time people have to make decisions. Paxton, Ungar and Greene (2011) manipulated both time and argument strength to overcome a participant's initial moral intuitions to condemn an incestuous act. Time was manipulated by allowing one group of participants to make a moral judgement immediately, while the other group was required to deliberate about the dilemma for 2 minutes before they could make a judgement. Argument strength was also manipulated, with one argument providing weak arguments in favour of a one-off incestuous act, and the other providing stronger arguments. Paxton, Ungar and Green (2011) hypothesised that requiring participants to delay their moral judgement would increase S2 processing, which would increase attention to the consequences of the act. Hence, it was expected that those in the 2 minute group who were exposed to the strong arguments would judge the incestuous act as more acceptable than those exposed to weak arguments, and this expectation was confirmed. In addition, in the no-delay group moral acceptability scores did not vary with argument

strength and this was interpreted to be a result of S1 processing that was less attentive to the arguments put forward.

The relationship between time and moral judgement was also investigated by Suter and Hertwig (2011) who found that for personal high-conflict moral dilemmas in which the harm inflicted is a means to an end, constraining people to make a moral judgement within 8 seconds led to a much higher proportion of deontological judgements (and a much smaller proportion of consequentialist judgements) than when participants were required to delay their judgement for 3 minutes. The same pattern of results emerged when people were nudged to make a self-paced intuitive decision compared to a self-paced deliberative decision. Suter and Hertwig (2011) interpreted their findings as providing support for Greene's dual process model.

Bringing together these results concerning time and moral judgement suggests that one strategy for testing the trade-off resistance of sacred and protected values is to get people to deliberate more about their moral judgements regarding market exchanges. It is possible that increased deliberation time may overcome some of the repugnance and moral outrage people feel about the proposed exchanges.

1.2. Sacred and Protected Values and the Moral Limits of Markets

The review of the philosophical, legal and economics literature revealed a range of detailed approaches to determining the moral limits of markets. However, their main shortcoming was they were in general too abstract and did not provide an operational framework for determining the boundary between the nonmarket and market realms. Exceptions to this were the works of Sandel (2012) and even more Satz (2004 & 2010) and Kanbur (2004) as they provided a framework that could be quite useful in assessing on a case-by-case basis whether a particular market should be permitted to operate or not. A more useful and empirically oriented approach is, however, suggested by the psychological literature on sacred or protected values. Both Tetlock and colleagues (Tetlock, 2000; Tetlock

et al., 2000), and Baron and colleagues (Baron & Leshner, 2000) have demonstrated how sacred values are implicated in determining whether a particular value trade-off is regarded as taboo. Furthermore, taboo trade-offs can be thought of as the markers of the boundary between the secular and the sacred, and by studying market exchanges using Tetlock's SVPM and Baron's concept of protected values, the moral limits of markets can be established.

1.2.1. Limitations of the Existing Literature and Open Issues

A limitation of the existing literature is the replicability of the findings relating to the core predictions of the SVPM reported in Tetlock (2000) and Tetlock et al., (2000). Tetlock has not undertaken any further experimentation using the SVPM. In addition, the finding in Tetlock (2000) of significant permeability in the sacred-secular barrier has not been further investigated in order to explain whether routine reframing or tragic reframing of taboo trade-offs or some combination of both causes people to trade-off their sacred values. Research by Baron and colleagues (Baron & Leshner, 2000; Baron & Spranca, 1997), working within the protected values framework, has also not shed light on this specific question. Therefore, an open issue is what type of reframing strategy, routine, tragic or a combination of both is effective in getting people to trade-off their sacred values relating to prohibited market exchanges, and in so doing alter the moral limit on the use of markets in society..

Another open issue is to what extent are people's moral judgements about the acceptability of certain hypothetical market transactions sensitive to the amount of time they have to consider a transaction. Time has been shown to be a factor in shaping people's moral judgements about trolley-like problems (Suter & Hertwig, 2011), however, nothing is known about the impact of time on taboo trade-offs involving hypothetical market transactions.

1.2.2. General Aims and Hypotheses of the Thesis

The general aims of the thesis are to investigate the moral limits of markets in society and in particular to test the flexibility of these limits. The role of sacred or protected values in determining and maintaining these moral limits is also investigated. Furthermore, the SVPM

is the main theoretical construct used to frame the investigations. Study 1 aims to test the key hypotheses of Tetlock's (2002) SVPM relating to moral outrage, moral cleansing and the reality constraint. In addition, Study 1 seeks to understand what type of reframing strategy is more effective at getting people to revise their assessment of taboo trade-offs is routing reframing, tragic reframing or some combination of both strategies. In terms of more specific hypotheses, consistent with the SVPM, it was expected that sacred values would be found to underlie taboo trade-offs to a greater extent than routine trade-offs and that taboo trade-offs would elicit greater moral outrage than routine trade-offs routine. It was also expected that when taboo trade-offs were subject to routine and tragic reframing strategies they would become more morally acceptable, than if they were not subject to a reframing strategy.

Given the results of Study 1, Study 2 is designed to explore the same questions as Study 1 after controlling for issues associated with the information that contextualized the reframing strategies. The key hypothesis of Study 2 is that after controlling for these issues, a reframing strategy that rhetorically reframes a taboo trade-off as a tragic trade-off will be more effective in raising the moral acceptability of taboo trade-offs, than a reframing strategy that leaves the trade-off as a taboo. Study 3 aims to build on Study 2 and explores the role of time or deliberation in moral judgements about taboo market transactions that have been rhetorically reframed as tragic trade-offs. Its central hypothesis is that requiring participants to deliberate such trade-offs will make them more morally acceptable than giving participants very little time to deliberate.

CHAPTER 2

STUDY 1 – The Sacred Value Protection Model and the Boundary between the Non-Market and Market Realms

2.1. Introduction

Tetlock (2002) pointed out that one of the dominant models in decision-making research is that of the "intuitive economist" which portrays individuals as seeking to maximize their utility in a world where they are constrained by finite resources. The fact of scarce resources necessitates that people make choices. However, as "intuitive economists", people are assumed to be able to make choices between competing options because they are able to value each option using a common metric, and then choose the option that maximizes their utility. Furthermore, money is the common metric typically used when people are functioning as "intuitive economists" and people are assumed to be able to convert any good or service into their monetary equivalent, including goods not necessarily associated with the market realm. In other words, all things become fungible through money. From the perspective of the "intuitive economist" there is very little, if any limit, on the moral reach of markets in society, resulting in an ever shrinking non-market realm.

A problem for the "intuitive economist" model of decision making is that people in some social contexts will often refuse to convert a particular object, activity, or relationship into a monetary equivalent and will become angry and enraged at the prospect. Tetlock (2002) argued this is because people regard the values associated with these things as sacred and trade-offs associated with them as taboo. In situations where sacred values are implicated, Tetlock proposed that people don't function as "intuitive economists" but as "intuitive theologians". Tetlock (2002 & 2003; Tetlock et al., 2000) put forward the SVPM to explain how people make decisions in social contexts where sacred values are involved. In the SVPM, sacred values are defined as "any value that a moral community implicitly or explicitly treats

as possessing infinite or transcendental significance that precludes comparisons, trade-offs, or indeed any other co-mingling with bounded or secular values" (Tetlock, et al. 2000, p. 853). From the perspective of the SVPM, taboo trade-offs mark the boundary between the secular and sacred realms, and in economic terms they mark the boundary between the non-market and market realms and provide a moral limit on the reach of markets in society.

In the SVPM Tetlock (2003) posited three hypotheses relating to moral outrage, moral cleansing and reality-constraints that work together to account for how people, functioning as "intuitive theologians", make decisions in contexts involving sacred values. The moral outrage hypothesis proposed that when values that communities hold as sacred are threatened by secular encroachments, members will respond with moral outrage. Furthermore, moral outrage is conceived of as an attitude with cognitive, affective, and behavioural components. The moral cleansing hypothesis proposed that people will feel tainted when observing or being personally confronted by a secular encroachment on a sacred value, and will engage in symbolic acts of moral cleansing to reaffirm their commitment to the moral community and its values. An example of moral cleansing would be the desire of a young Christian to ostracize a fellow believer who encouraged them to look at pornography and then feeling tainted by attempt to cleanse themselves by offering to lead a Bible study at the church. The reality-constraint hypothesis is concerned with situations where people experience problems making decisions consistent with their sacred values in contexts where the costs of upholding them become large. When this happens the SVPM predicts that people will "welcome rhetorical redefinitions of situations that transform taboo trade-offs into more acceptable routine trade-offs or tragic trade-offs" (Tetlock, 2003, p. 321).

Tetlock et al. (2000) studied undergraduates with a variety of ideological commitments and found support for the moral outrage hypothesis. In particular, taboo trade-offs that pit a secular value against a sacred value, generated significantly greater moral outrage than routine trade-offs, that pit two secular values against each other. Evidence

supporting the moral cleansing hypothesis proved more elusive to find and a main effect was not found for the sample as a whole. Specifically, no significant difference was found between the moral cleansing scores of those participants that completed the measure after exposure to the taboo trade-offs, and those who completed the measure before exposure to the taboo trade-offs. However, significant differences in moral cleansing scores were found between participants on the basis of political ideology.

Tetlock (2000 & 2003) reported research that examined the reality-constraint hypothesis. As outlined in the previous chapter, one hundred and fifty five undergraduates were asked about two taboo trade-offs relating to markets for body organs for medical transplantation, and adoption markets for babies and children in need of parents. The proposed markets were in a sense regulated because body organs could only be traded for use in medical transplant surgery, and only qualified parents could bid for adoption rights. Tetlock found that 90% of participants rejected such markets and when asked why, 60% of those that rejected the proposals simply stated that such transactions were degrading, demeaning and dehumanizing. Reasoning such as this is consistent with Sandel's (2012) criteria of corruption as a reason for blocking exchanges of some goods. The remaining 40% of participants cited arguments that were consistent with such transactions being unfair, coercive, exploitative and likely to generate extreme outcomes. This latter group of participants were basically saying that they did not have any objections in principle to body organs, or babies and children, being to some extent commodified, rather their objections stemmed from the inequality of pre-market bargaining conditions. Reasons such as these are consistent with Sandel's (2012) criteria of inequality, and Satz's (2010) and Kanbur's (2004) parameters of unequal power, vulnerability, and extreme outcomes, all of which are grounds for blocking exchanges in their respective frameworks.

On the basis of the reasons provided Tetlock (2000 & 2003) created a suite of policy initiatives that attempted to address these concerns. Some of the initiatives were designed to

create more equal bargaining conditions that would reduce coercion and the likelihood of extreme outcomes from market exchange. In other words, these policy initiatives were designed to reframe taboo trade-offs as routine trade-offs. Other policy information made participants aware that a market-based solution was the only way to transform large numbers of lives. This would occur either by saving them through much needed transplants in the case of body organ markets, or providing babies and children with families to grow up in rather than remaining in institutionalized care. Policy information such as this was designed to reframe taboo trade-offs to be tragic trade-offs. For example, in the case of body organ markets it would pit a value based on the idea that people should not be treated as commodities, against a value associated with saving lives.

After participants were exposed to the policy revision information they re-evaluated each of the taboo trade-offs and it was found that now only 60% rejected the proposed markets. In other words, a significant minority of participants had changed their minds. In the light of this Tetlock (2003) concluded that many people are "neither, vigilant or resolute, defenders of the sacred" and for them sacred values are only "pseudo-sacred" (p. 322). It also indicated a reasonable degree of permeability in the barrier that protects the sacred realm from secular encroachment, and from the point of view of the debate about the moral limits of markets they suggested that the boundary between the non-market realm and the market realm was reasonably flexible. A key question that remains unanswered was what type of reframing caused people to change their minds, routine reframing, tragic reframing or the combination of both.

Other research in the area has not shed light on this question. Baron and colleagues (Baron & Spranca, 1997; Baron & Leshner, 2000) found support for the moral outrage hypothesis, with trade-offs that involved sacred or protected values eliciting significantly higher levels of anger than those that did not involve sacred values. Support was also found for the reality-constraint hypothesis, with a significant minority of participants changing their

endorsement of a protected value. However, as with Tetlock (2003) it was not clear if this was due to the protected value being recast as a routine or tragic trade-off. Hanselmann and Tanner (2008) also found support for the moral outrage hypothesis but did not explore the reality-constraint hypothesis. A fuller discussion of these results was included in the literature review section of Chapter 1.

Another feature of this study is that it used a relatively new measure of sacred values developed by Tanner, Ryf and Hanselmann (2009). Tetlock et al. (2000) used a constructed moral outrage index score to distinguish whether or not sacred values were associated with a particular trade-off, and also to measure the degree of moral acceptability of a proposed trade-off. In this study, the measure developed by Tanner et al. (2009) was used to check for sacred values being associated with a trade-off, and thus validate the allocation of trade-offs as either routine or taboo. Moral outrage scores and moral cleansing scores were used to measure changes in moral acceptability as a result of exposure to different reframing strategies.

2.1.1. Hypotheses

The present study examined the three key hypotheses of the SVPM and also attempted to extend the model by investigating which reframing strategies are effective at getting people to trade-off their sacred vales. More specifically, the study aimed to test (i) that sacred values are associated with taboo trade-offs and not routine trade-offs, (ii) the moral outrage hypothesis, (iii) the moral cleansing hypothesis, (iv) the reality-constraint hypothesis to determine the degree of permeability of the sacred -secular barrier, and (v) the effectiveness of different reframing strategies in reducing the trade-off resistance of sacred values. The specific hypotheses associated with these aims are outlined below.

According to the SVPM's (Tetlock, 2003) moral outrage hypothesis, because taboo trade-offs threaten sacred vales and routine trade-offs do not, they elicit more moral outrage:

Hypothesis 1: Mean moral outrage scores for taboo trade-offs will be higher than mean moral outrage scores for routine trade-offs before exposure to policy revision information.

According to the reality-constraint hypothesis in the SVPM (Tetlock, 2003), and the evidence reported in Tetlock (2000), exposure to policy revision information that reframes a taboo trade-off to be either a routine trade-off, or a tragic trade-off, or both, will cause a significant decline in moral outrage scores compared to before exposure to the information. Analysing the effects of these different types of policy information will help explain what type of reframing was responsible for the results reported in Tetlock (2000 & 2003):

Hypothesis 2a: Exposure to policy information that reframes taboo trade-offs as routine trade-offs will cause a decline in moral outrage and moral cleansing scores.

Hypothesis 2b: Exposure to policy information that reframes taboo trade-offs as tragic trade-offs will cause a decline in moral outrage and moral cleansing scores.

Hypothesis 2c: Exposure to policy information that combines routine and tragic reframing information will cause a decline in moral outrage and moral cleansing scores.

According to the reality-constraint hypothesis in the SVPM (Tetlock, 2003), and the evidence reported in Tetlock (2000), exposure to policy revision information that reframes a taboo trade-off to be either a routine trade-off, or a tragic trade-off, or both, will cause a significant decline in moral cleansing scores:

Hypothesis 2d: Exposure to policy information that reframes taboo trade-offs as routine trade-offs will cause a decline in moral cleansing scores.

Hypothesis 2e: Exposure to policy information that reframes taboo trade-offs as tragic trade-offs will cause a decline in moral cleansing scores.

Hypothesis 2f: Exposure to policy information that combines routine and tragic reframing will cause a decline in moral cleansing scores.

2.2. Method

2.2.1. Participants

One hundred and twenty-two students from Macquarie University participated in an online study, however, due to missing data five were eliminated from the study bringing the final number of participants to 117. Students received payment of $20 to compensate them for the time commitment associated with the study. Students were recruited through a weekly email sent by the University's administration alerting them to various events, including research participation opportunities. Of the 117 participants, 76 (65%) were female and 41 (35%) were male and included people aged 17 to 45 years with very little difference between the average age of males (M = 23.20, SD = 5.99) and females (M = 22.40, SD = 5.21). In terms of education, for 68% of participants completion of secondary school was the highest level attained and 32% had gone onto complete a post-secondary school qualification. In addition, 37% were currently enrolled in human and natural sciences programs, 29% were enrolled in an arts program, and 34% were enrolled in a business program. Finally, 51% of participants indicated they had no religious affiliation while 49% said they did, with 80% of these identifying as Christian.

2.2.2 Experimental Design

The participants were randomly assigned to one of four groups consisting of a control group and 3 treatment groups. There was one between-subjects independent variable, policy revision information, with four levels: routine reframing information that transformed a taboo trade-off into a routine trade-off; tragic reframing information that transformed a taboo trade-off into a tragic trade-off; combined routine and tragic reframing which included information and; no reframing information that exposed participants to neutral information about cities of

the world and functioned as a control group. Differences in policy revision information were used to form four groups: a routine reframing group called treatment group 1 (TG1, n = 30); a tragic reframing group called treatment group 2 (TG2, n = 29); a combined routine and tragic reframing group called treatment group 3 (TG3, n = 30) and; a no reframing group that functioned as a control group (CG, n = 28). The size of the groups was set to have an 80 per cent chance of finding a strong medium effect size (Cohen's d = .6 to .7) with α = .05 (Hanna & Dempster, 2012). The dependent variables of interest were moral outrage, moral cleansing and decision difficulty. Moral outrage and moral cleansing were measured before and after exposure to the policy revision information in order to test the trade-off resistance of sacred values. The decision difficulty scores were used to independently check the effectiveness of the various reframing strategies.

2.2.3. Instruments

2.2.3.1 Unlikely virtues scale (UVS)

The UVS is a subscale of the Multidimensional Personality Questionnaire (MPQ) developed by Tellegen (1982). Items in the MPQ are scored true = 1 and false = 0 unless underlined by Tellegen (1982) in which case they will be reverse scored with true = 0 and false = 1. Total scores are calculated by simply adding scored items. The UVS consists of 14 items that either endorse highly improbable virtues or deny common frailties. Scores on this scale are typically quite low. Tellegen (1982) reported a mean score for college females of 1.7 (SD = 1.6) and for college males of 2.2 (SD = 1.9) in the United States (U.S.). The UVS also has acceptable internal consistency indicated by Cronbach's α = .54 and .60 for U.S. college females and males respectively, and good stability with a 30-day test-retest correlation of r = .73 (Tellegen, 1982). Tellegen (1982) has argued that high scores on this scale may indicate carelessness or poor comprehension. In addition to the UVS, six items from the Alienation subscale of the MPQ that were of no experimental interest to the study were included to

provide a degree of variety in the items to be completed. Consequently, participants completed a 20 item scale. The University of Minnesota Press that owns the rights to the MPQ does not permit reproduction of the test items in dissertations and thus they are not reproduced here.

2.2.3.2 Sacred value measure (SVM)

The SVM was developed by Tanner and colleagues (Tanner, Ryf & Hanselmann, 2009; Hanselmann & Tanner, 2008) and is designed to access key constitutive features of sacred values including reluctance to sacrifice a value, incommensurability and trade-off resistance. The higher the score on the scale the greater the degree of sacredness associated with the topic. The SVM consists of five items that participants were asked to respond to using a 7-point scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*.

Specifically, the items are:

The argument is that a particular action, object, idea, or value trade-off is something

1. …that we should not sacrifice, no matter what the benefits (money or something else).

2. …which one cannot quantify with money.

3. …for which I think it is right to make a cost benefit analysis.

4. …for which I can be flexible if the situation demands it.

5. …that involves issues or values which are inviolable.

In the current study eight value trade-offs were assessed using the SVM consisting of four routine trade-offs and four taboo trade-offs. Tetlock et al. (2000), Experiment 1, used five routine trade-offs, four of which were used in this study, including: paying someone for food, paying someone to buy a house, paying someone to clean your house and paying a

lawyer to defend you against charges in a court of law. Three of the four taboo trade-offs were selected from the nine used in Tetlock et al. (2000), Experiment 1. A fourth taboo trade-off relating to jury service obligations, was not used in Tetlock et al. but was developed from previous research and informed by available literature (Juries Commissioner's Office, 2005; MacMillan & Wastell, 2008; Urofsky, 2003). The taboo trade-offs used in this study were: paying someone for a body part for a medical transplant operation; paying for the right to adopt a baby or child in need of parents; paying someone to perform your jury service obligation, and; paying someone for their right to vote in a political election.

Both Hanselmann and Tanner (2008) and Tanner et al. (2009) reported good internal consistency for this scale with Cronbach's α higher than .79. In addition, Hanselman and Tanner (2008) investigated the relationship between their SVM measure, which they argued is a "direct" measure of sacred values, with a more "indirect" measure, the moral outrage index, used by Tetlock et al. (2000), and found that they were conceptually distinct despite being highly correlated. This finding is particularly important for the current study because it meant that the SVM could be used to independently measure the existence of sacred values, while the effect of threatening sacred values could be independently measured by the moral outrage index developed by Tetlock et al. (2000).Therefore, in this study the SVM is a manipulation check to ensure that the trade-offs described as being taboo are distinguishable from those being described as routine, on the basis of their association with sacred values. This is a clear advance over earlier research using the SVPM in which moral outrage scores had to function as both a measure to establish the existence of sacred values, and as a measure of the effect of threatening sacred values in a trade-off scenario (Tetlock et al., 2000).

2.2.3.3 Moral judgements questionnaire (MJQ)

To assess reactions to value trade-offs, participants filled in the MJQ. In particular, the MJQ uses a 13-item scale to measure the moral outrage evoked by each value trade-off, and it

uses a single item question to assess the desire to engage in an act of moral cleansing. The questionnaire is based on Tetlock et al. (2000) Experiment 1. For each trade-off, participants were asked to make judgements about the acceptability of the value trade-off across a number of dimensions using 7-point scales, anchored at 1 and 7. Some items are reverse-scored and these are identified by (r). Specifically, respondents were asked to make the following judgements about a trade-off: *should be banned-should be permitted* (midpoint: permitted with major restrictions) (r); *highly moral-highly immoral* (midpoint: unsure); *highly upsetting-not at all upsetting* (midpoint: moderately upsetting) (r); *not at all sad-extremely sad* (midpoint: moderately sad); *not at all tragic-tragic* (midpoint: moderately tragic); *not at all offensive-highly offensive* (midpoint: moderately offensive) and; *no anger-great deal of anger* (midpoint: angers me somewhat). These items are designed to measure the affective dimension of moral outrage. In addition, participants were asked to make judgements about what they thought of a person who was willing to allow this type of transaction: *very irrational-very rational* (midpoint: neutral) (r); *very compassionate-very cruel* (midpoint: neutral) and; *completely crazy-completely sane* (midpoint: neutral) (r). These three items tap the cognitive dimension of moral outrage. The behavioural dimension of moral outrage is measured by three items. The first two items asked participants how they would react if they were asked in ordinary conversation about their views on the proposed trade-off: *deeply insulted-not bothered at all* (midpoint: unsure) (r); and *I would want to end the conversation quickly-I would want to continue the conversation* (midpoint: unsure) (r). The third item asked how you would react if an elected member of the University's Student Council supported funding for a campus group that had invited a speaker who endorsed the proposition that it is morally acceptable to permit the taboo trade-off, for example "to pay someone for their body parts to be used in a medical transplant operation": *very negative-very positive* (midpoint: neutral) (r).

The desire to engage in moral cleansing following exposure to taboo trade-offs was also measured using an item from Tetlock et al., (2000) Experiment 1. The participants were asked about their willingness to provide behavioural support for actions that protect a sacred value threatened by a proposed transaction. The response was rated on a 7-point scale, anchored at 1 and 7: *not at all interested-extremely enthusiastic* (midpoint: unsure). Specifically, participants were asked how willing they would be to "volunteer to help a political-action group fighting to prevent passage of legislation through Parliament that would permit the buying and selling of adoption rights for children in need of parents".

Prior to evaluating the value trade-offs, participants were provided with the following introductory remarks which are based on Tetlock et al (2000), Experiment 1:

> This section of the study explores peoples' thinking and judgements about what should be permitted to be purchased and sold in markets. You are required to imagine that you have the power to judge the permissibility and morality of each of the eight (8) market transactions you will be shown. Would you allow people to enter into certain types of deals? Do you morally approve or disapprove of those deals? And what emotional reactions, if any, do these proposals trigger in you? What would you think of someone who permitted such deals and how would you behave towards them? Consider each market transaction and use the scales provided to rate your reactions.

Participants were asked to evaluate the four routine trade-offs and four taboo trade-offs mentioned above.

2.2.3.4 Decision difficulty scale

The decision difficulty scale was developed by Hanselmann and Tanner (2008) and is designed to measure various types of perceived difficulty associated with a decision including decision ambivalence, readiness to decide, certainty with regard to the decision, ease of the decision, and the need to contemplate further. Each item is scored on a 7-point scale ranging

from 1 = very easy to 7 = very difficult (item 1 only), or from 1 = strongly disagree to 7 = strongly agree. The items are as follows: For me this decision is (1= very easy to 7 = very difficult); I would need more time to decide; I would not ponder for a long time on this decision; I feel very ambivalent about this decision and; for this decision, I feel certain which item to choose.

2.2.4. Policy Revision Information

The development of the policy revision information was based on the work of Tetlock (2000). Tetlock reported research that made use of the policy revision paradigm to assess the permeability of the sacred-secular barrier. Tetlock asked participants to make moral judgements about the permissibility of markets for body parts for medical transplants, and markets for the trading of auction rights for babies and children in need of parents. Participants were then asked to provide reasons for their judgements. Tetlock distilled from these reasons, the key objections to the taboo trade-offs and constructed a suite of policy proposals to address these concerns. Participants were asked to imagine a society in which these policy initiatives were operating and in the light of this to re-evaluate the permissibility of the taboo trade-offs. The scenarios that Tetlock developed framed the policy initiatives so that they transformed the taboo trade-offs into routine trade-offs, and/or into tragic trade-offs. For this study, the policy revision information was designed to reframe taboo trade-offs as (i) routine trade-offs or (ii) tragic trade-offs or (iii) both routine and tragic trade-offs or (iv) to remain taboo trade-offs in the case of the control group. From a consequentialist moral framework, the initiatives contained in the routine and tragic reframing information were "designed to minimize the 'moral externalities' of permitting a particular taboo trade-off" (Tetlock et al., 2004, p 255).

The policy revision information for the taboo trade-offs involving body parts for medical transplants and adoption rights for children was taken from Tetlock (2000). However,

the information for the other two taboo trade-offs, involving the buying and selling of jury service obligations, and votes in political elections, was adapted from other research undertaken on the SVPM (Tetlock et al., 2000; MacMillan & Wastell, 2008), and informed by the available literature on these topics (Juries Commissioner's Office, 2005; Urofsky, 2003).

The policy revision paradigm is a repeated measures variable and was used to address the possible concerns of participants associated with each of the taboo trade-offs. Participants in the treatment groups were provided with the following introductory remarks in Section 5 of the study:

> This section requires you to think again about four (4) of the market transactions from section 4. For each of these market transactions information is provided which is designed to assist you in thinking further about each transaction. After you have considered this information you are asked to re-evaluate the relevant market transaction. As you did in Section 4 you are required to imagine that you have the power to judge the permissibility and morality of each of the four (4) revised market transactions you will be shown. Would you allow people to enter into certain types of deals? Do you morally approve or disapprove of those deals? And what emotional reactions, if any, do these proposals trigger in you? What would you think of someone who permitted such deals and how would you behave towards them?

For each taboo trade-off the possible concerns associated with permitting it were raised in the minds of participants. This was done to contextualise the policy proposals associated with the policy revision scenarios and where possible was consistent with the concerns participants expressed in Tetlock (2000). Participants were then asked to imagine a society in which these concerns were significantly alleviated by a suite of policy initiatives. In the light of the proposed policy initiatives participants re-evaluated each of the 4 taboo trade-offs using the MJQ.

The three different types of policy revision information for the first taboo trade-off are provided below in full. For the three other trade-offs brief summaries are given, with the complete version available in Appendix A.

(a) Paying someone for a body part for a medical transplant operation

Participants in all three re-framing conditions were exposed to the following information:

> Objections to a national market operating for the buying and selling of body organs tend to focus on concerns that the poor would be the main sellers in the market, often entering into deals of desperation and selling body organs to survive. Another concern is that the poor would never be able to afford to buy a body organ.

Participants in the routine re-framing condition were exposed to this additional information:

> In the light of the above objections and concerns, consider the following policy initiatives to modify the market for body organs for medical transplants in society: (1) generous social welfare policies that never allowed the income for a family of four to fall below $50,000 per year. (Note that each year this amount would be increased to compensate families for increases in the cost of living); (2) the provision of the less well-off with generous organ-purchase vouchers that increased in value as recipient income decreased (the poorer the recipient the larger the voucher).

Participants in the tragic re-framing condition were exposed to this additional information:

> In the light of the above objections and concerns would you still object to a market for body organs for medical transplants in society if you were informed that if it could be shown that all other methods of encouraging organ donation had failed to produce enough organs and the only way to save large numbers of lives was to implement a market for body organs.

Participants in the combined routine and tragic reframing condition were exposed to this additional information:

> In the light of the above objections and concerns would you still object to a market for body organs for medical transplants in society if: (1) generous social welfare policies that never allowed the income for a family of four to fall below $50,000 per year. (Note that each year this amount would be increased to compensate families for increases in the cost of living.); (2) the provision of the less well-off with generous organ-purchase vouchers that increased in value as recipient income decreased (the poorer the recipient the larger the voucher); (3) if it could be shown that all other methods of encouraging organ donation had failed to produce enough organs and the only way to save large numbers of lives was to implement a market for body organs.

(b) Paying for the right to adopt a baby or child

Policy proposals attempted to alleviate concerns about: the problem of unsuitable parents bidding for children including: the plight of babies and children who were unwell or unattractive and consequently were less likely to attract bids; the inability of the poor to bid effectively for children and; other methods being more effective than the market at reducing the long waiting periods experienced by babies and children.

(c) Paying someone to perform jury service on your behalf

The concerns addressed by the policy proposals included: erosion of an important civic duty; the composition of juries would cease to be representative of society, reducing the validity of jury verdicts; the rich would be able to buy their way out of jury service and; other methods being more effective at motivating jurors so as to maintain the integrity of the “trial by jury” system than the market can.

(d) Paying someone for their right to vote in a political election / buying and selling of voting rights in political elections

Proposed policies attempted to alleviate concerns about: the diminishment of the representative aspect of democracy because voters would no longer have to live in the electorate; people selling their right to vote and then not being able to afford to buy it back; the rich being able to buy so many votes that elected officials would in effect only represent the interests of the wealthy and; other methods that may be able to improve the integrity of a democracy better than a market for voting rights can.

2.2.5. Major Cities Information for the Control Group

Participants in the control group were not exposed to information about policy initiatives, rather, they were exposed to neutral information about major cities of approximately the equivalent cognitive load. The information was designed to not alter the taboo nature of the trade-offs. Specifically, information was provided about Barcelona, Madrid, Chicago and San Francisco. The information was distilled from the Wikipedia entries for each of the cities. After reading one of the cities, participants were asked to re-evaluate one of the taboo trade-offs. It should be noted that participants were not asked to re-evaluate the taboo trade-off in the context of the information about a particular city. Participants in the control group were provided with the following introductory remarks:

> This section requires you to read information about four (4) major world cities and reconsider four (4) of the transactions from Section 4. After reading information about a particular city you will be asked to re-evaluate one of the transactions from Section 4. As you did in Section 4 you are required to imagine that you have the power to judge the permissibility and morality of each of the four (4) revised market transactions you will be shown. Would you allow people to enter into certain types of deals? Do you morally approve or disapprove of those deals? What emotional

reactions, if any, do these proposals trigger in you? What would you think of someone who permitted such deals and how would you behave towards them?

The information about Barcelona is presented below and the information about the other three cities is available in Appendix A.

Barcelona is recognised as a global city because of its importance in finance, commerce, media, entertainment, arts, international trade, education and tourism. This is a major economic centre with one of Europe's principal Mediterranean ports, and Barcelona International Airport being the second largest in Spain (handles about 30 million passengers per year). Barcelona was the 12th-most-visited city in the world and 4th most visited in Europe (after London, Paris, Rome) and also the most popular tourist attraction in Spain (about 5 million tourists every year). According to lifestyle magazine Monocle, Barcelona occupies 15th place in the world on a ranking of the World's most livable cities. According to Innovation Analysts 2thinknow, Barcelona occupies 13th place in the world on a ranking of global innovation cities. Founded as a Roman city, Barcelona became the capital of the Counts of Barcelona. After merging with the Kingdom of Aragon, it became one of the most important cities of the Crown of Aragon. Besieged several times during its history, Barcelona is today an important cultural centre and a major tourist destination and has a rich cultural heritage. Particularly renowned are architectural works of Antoni Gaudi and Lluis i Montaner that have been designated UNESCO World Heritage Sites. The city is well known in recent times for the 1992 Summer Olympics. The headquarters of the Union for the Mediterranean are located in Barcelona.

As the capital of Catalonia, Barcelona houses the seat of the Catalan government, known as the Generalitat de Catalunya; of particular note are the executive branch, the

parliament, and the Supreme Court of Catalonia. The city is also the capital of the Province of Barcelona and the Barcelones comarca (shire).

2.2.6. Apparatus

Participants completed the experiments online using the survey provider Qualtrics and it was possible for them to access the survey using a variety of internet compatible devices including personal computers, laptops, tablets, and mobile phones.

2.2.7. Procedure

The participants responded by email to an advertisement placed in a weekly Macquarie University e-newsletter to students or to advertisements placed on University noticeboards and were sent a return email containing a link to the online experiment run by the survey provider Qualtrics. Participants were randomly assigned to one of four groups. The first page of the survey was an information and consent form and participants were told that if they clicked on the "next" button to continue with the study they were also providing consent. The information and consent form informed participants that the study had been approved by the Macquarie University Ethics Review Committee for Human Research and provided contact information about how they could make a complaint should they wish. The survey consisted of five sections. Section 1 required participants to complete a demographic questionnaire that gathered information about age, gender, marital status, educational attainment, current field of study, and religious affiliation. The UVS was completed in Section 2 after which participants were forwarded to the SVM contained in Section 3 and completed it for all eight transactions. In Section 4 participants completed the MJQ for each of the eight transactions and after that the moral cleansing task. To control for potential order effects the transactions were presented randomly in two possible sequences, either four routine trade-offs followed by four taboo trade-offs, or four taboo trade-offs followed by four routine trade-offs. In Section 5, participants received the policy revision information if they were in the treatment groups, or

the information on major global cities if they were in the control group. The policy information varied between the treatment groups depending on the reframing strategy, with TG1 receiving information that reframed taboo trade-offs as routine trade-offs. By contrast, participants in TG2 were exposed to information that reframed taboo trade-offs as tragic trade-offs, and TG3 were exposed to both routine and tragic reframing information. After exposure to the relevant information for a particular transaction each of the groups were asked to re-evaluate the taboo trade-off using the MJQ and then were asked to complete the decision difficulty scale. When all four taboo trade-offs had been evaluated the moral cleansing task was again completed. Following completion of the experiments participants arranged a mutually convenient time to collect payment and had the opportunity to ask any questions regarding the study and where possible, answers were provided.

2.3. Results

2.3.1. Manipulation Checks

2.3.1.1 The unlikely virtues scale (UVS)

The performance of both males and females was consistent with the original research undertaken by Tellegen (1982). Specifically, the mean score for females was $M = 1.68$, $SD = 1.83$ and the mean score for males was $M = 1.76$, $SD = 2.10$. By comparison, Tellegen reported $M = 1.7$ and $SD = 1.6$ for females and $M = 2.2$ and $SD = 2.2$ for males. In addition, reliability was higher in this study than in Tellegen's, with Cronbach's alpha for females being $\alpha = .62$ and for males $\alpha = .73$ compared to .54 and .60 respectively. According to Tellegen (1982) a high score on the UVS may indicate carelessness and poor comprehension. Therefore, participants with a high score, defined as two standard deviations above the mean ($M > 5.00$ for both males and females) were identified and their survey responses analysed further. Five participants had mean UVS scores greater than 5 and an analysis of their survey

responses revealed they were broadly consistent with other participants so they were not eliminated from the study.

2.3.1.2 Sacred value measure

A reliability analysis was conducted on the SVM to test the internal reliability of the scale and a Cronbach's α = .78 was found, that is both above the α = .70 value recommended for research purchase purposes (Leech, Barrett and Morgan, 2008) and also consistent with Tanner, Ryf and Hanselmann (2009) who found a value of α = .79.

The mean SVM score for the four taboo trade-offs (M = 4.62, SD = .81) was higher than the mean SVM score (M = 3.02, SD = .86) for the four routine trade-offs, and the difference was statistically significant, $t(116) = 16.20$, $p < .0005$, d = 1.92 (see Table 1). Furthermore, the effect size for this difference was large. A one-way repeated measures analysis of variance (ANOVA) was used to compare mean SVM scores of the four routine trade-offs. It should be noted that the homogeneity of variance assumption was not violated, however, Mauchly's test of sphericity was violated so following Allen, Bennett and Heritage (2014), Huynh-Feldt Epsilon adjusted F statistics are reported. Among the routine trade-offs, mean SVM scores did not significantly differ between paying someone for food (M = 2.94, SD = 1.02) or paying someone for a house (M = 2.89, SD = .99), or to clean your house (M = 2.76, SD = 1.03), $F(1.712, 198.621) = 2.937$, $p = .063$. By contrast, all three exchanges had statistically significantly lower mean SVM scores than the fourth routine trade-off, paying someone to defend you in court (M = 3.46, SD = 1.23), $F(2.306, 267.542) = 20.154$, $p < .0005$, partial η^2 = .15. This raised the possibility that paying someone to defend you in court was a taboo trade-off rather than a routine trade-off. A comparison of the mean SVM score for taboo trade-offs and the mean SVM score for paying someone to defend you in court found that the taboo trade-offs had a statistically significantly higher mean SVM score than paying someone to defend you in court, $t(116) = 10.3$, $p < .0005$, d = 1.14. In addition, the large effect size

associated with this difference indicated that paying someone to defend you in court was not a taboo trade-off. A repeated measures ANOVA examined differences in mean SVM scores for the four taboo trade-offs. The homogeneity of variance assumption was not violated, however, Mauchly's test of sphericity was violated so Huynh-Feldt Epsilon adjusted *F* statistics are reported. In terms of the taboo trade-offs, paying someone for their vote in a political election had the highest mean SVM score (M = 5.29, SD = 1.17) and was statistically significantly larger, $F(2.826, 327.861) = 26.652$, $p < .0005$, partial $\eta^2 = .19$, than the other three taboo trade-offs involving paying someone for a body organ for medical transplant (M = 4.40, SD = 1.11), paying someone for the right to adopt a baby or child (M = 4.49, SD = 1.06), and paying someone to perform your jury service obligation (M = 4.29, SD = 1.26). Taken as a whole these results functioned as a manipulation check on the classification of transactions as routine and taboo trade-offs.

Table 1

Sacred Value Measure Scores

	Routine Trade-offs					Taboo Trade-offs				
SVM[a]	Food	House	Cleaning	Lawyer	All	Organs	Adopt	Jury	Votes	All
Mean	2.94	2.89	2.76	3.46	3.02	4.40	4.49	4.29	5.29	4.62
SD	1.02	.99	1.03	1.23	.86	1.11	1.06	1.26	1.17	.81

[a]n = 117

2.3.1.3 Decision difficulty scale

Hanselmann and Tanner (2008) showed that decision difficulty scores were significantly different according to trade-off type. Specifically, they found taboo trade-offs had the lowest perceived decision difficulty scores followed by routine trade-offs followed by tragic trade-offs. In this study decision difficulty scores were used to determine how effective the reframing strategies were at transforming the taboo trade-offs into routine trade-offs and tragic trade-offs. Therefore, because the trade-off was still taboo in the CG it was expected to

have the lowest decision difficulty score, followed by TG1, because the reframing information was designed to transform taboo trade-offs into routine trade-offs. The next highest scoring group was expected to be TG2, because of the tragic reframing information, and the highest group was expected to be TG3 due to participants being exposed to both routine reframing and tragic reframing information, and thus, being in a situation that if the tragic reframing information was effective, the tension between the two sacred values could be resolved by a consideration of routine reframing information.

A reliability analysis was conducted on the decision difficulty items to test the internal reliability scale and a Cronbach's $\alpha = .72$ was found which is above the $\alpha = .70$ value recommended for research purchase purposes (Leech, Barrett and Morgan, 2008). A univariate ANOVA analysis was undertaken to examine whether mean decision difficulty scores varied with treatment group. The analysis was statistically significant and indicated that decision difficulty varied with treatment group, $F(3, 113) = 4.56$, $p = .005$, partial $\eta^2 = .11$. Table 2 reports the mean decision difficulty scores by treatment group. Consistent with expectations participants in TG3 ($M = 3.89$, $SD = 1.04$) recorded the highest decision difficulty score. However, contrary to expectations those in TG2 ($M = 2.96$, $SD = 1.04$) recorded the lowest, and the difference between TG3 and TG2 was statistically significant ($t(57) = 3.43$, $p = .001$, $d = .89$).. These results suggested that the tragic reframing information had not been effective in transforming the taboo trade-offs into tragic trade-offs for the participants in TG2. After applying a Bonferroni adjustment for multiple comparisons ($\alpha = 0.05/6 = .008$) no other significant differences between groups were found. Specifically, for TG1 and TG2, $t(57) = .97$, $p = .336$, for TG1 v TG3, $t(58) = 2.64$, $p = .011$, TG1 v CG, $t(56) = .44$, $p = .660$, TG2 v TG4, $t(55) = 1.35$, $p = .182$ and TG3 v CG, $t(56) = 2.13$, $p = .038$.

Table 2

Decision Difficulty Scores

	Treatment Groups[a]			
Decision Difficulty	TG1	TG2	TG3	CG
Mean	3.21	2.96	3.89	3.35
SD	.94	1.04	1.04	.98

[a]*n* = 117

2.3.2. Moral Outrage

2.3.2.1 The construction of the moral outrage index

Tetlock (2000) and Tetlock et al. (2000) both referred to the construction of a moral outrage index from the Moral Judgements Questionnaire (MJQ). Consequently, the data was subjected to a principal components analysis to determine how to construct the index. In order to base the principal components analysis on observations, for all eight trade-offs, the data were restructured into a "stacked" format, in which each of the 13 scales of the MJQ contributed 8 observations one for each trade-off. The principal components analysis carried out on the "stacked" data set was based on pooled within trade-off correlations, so that the differences in average ratings between trade-offs did not affect the correlations between the items (see Table 3).

Table 3

Correlation Matrix for Pooled within Trade-off Data

Item[a]	Ban	Immoral	Upset	Sad	Tragic	Offend	Anger	Irrational	Cruel	Crazy	Insulted	Curtail	Negative
Ban	1.40												
Immoral	.66	1.48											
Upset	.63	.55	1.51										
Sad	.44	.45	.70	1.65									
Tragic	.48	.51	.73	.78	1.64								
Offend	.53	.54	.75	.70	.75	1.61							
Anger	.59	.58	.78	.69	.74	.85	1.59						
Irrational	.56	.51	.50	.41	.43	.43	.46	1.51					
Cruel	.45	.54	.45	.38	.44	.44	.46	.39	1.31				
Crazy	.49	.47	.47	.36	.42	.46	.45	.68	.40	1.46			
Insulted	.28	.25	.39	.35	.33	.37	.33	.36	.19	.38	1.52		
Curtail	.12	.13	.18	.18	.16	.13	.14	.21	.16	.18	.57	1.61	
Negative	.52	.50	.51	.38	.40	.38	.47	.43	.51	.44	.26	.27	1.44

Note. Standard deviations are reported on the main diagonal.

[a]n = 117.

An initial solution was extracted from the principal components analysis and is reported in Table 4. Initial results showed that the data was suitable for analysis with a Kaiser-Meyer-Olkin measure of sampling adequacy equal to .91 well above the threshold value of .70 (Leech, Barrett and Morgan, 2008). Three components had eigenvalues greater than one which is the traditional threshold for deciding how many components to retain (Manly, 2004). The first component had a large eigenvalue equal to 6.62 and accounted for just over half of the variance (50.9%). The second and third components had eigenvalues equal to 1.40 and 1.19 that accounted for 10.8% and 9.2% of the variance respectively. Overall, the three components accounted for 70.9% of the variance. The three components were then subjected to a varimax rotation and the component loadings on each of the 13 items are reported in Table 5. The first component, henceforth component A, included items that gauge how upset, sad, tragic, offended, and angry people feel when considering market transactions. In other words, it measured people's emotional reactions to different transactions. The second component, henceforth, component B, included items that captured both people's overall moral assessment of a transaction, and their cognitive reactions. In terms of global assessment the items included related to whether people thought a transaction was immoral or moral, should it be banned or permitted, and whether their overall reaction was negative or positive. The items linked to cognitive reactions included how irrational, cruel, and crazy you think someone is who permits such a transaction to occur. The last component, henceforth component C, included items representing the behavioural reactions of people to someone that probed you about a particular transaction, specifically, they asked whether you would be insulted or not, and whether you would want to end the conversation quickly, or continue. Figure 1 provides a visual representation of this three component pattern. A Cronbach's alpha was calculated for each component scale to assess internal reliability and each was found to be above the $\alpha = .70$ value recommended for research

purchase purposes (Leech, Barrett and Morgan, 2008). Specifically, for component A Cronbach's α = .94, for B α = .92 and for C. α = .74.

The large eigenvalue for component A provided a statistical justification for constructing a moral outrage index that was calculated by finding the mean of the summed responses on each of the 13 items for a value trade-off. A Cronbach's alpha was calculated for the moral outrage index to assess internal reliability and was found to be α = .95, well above the α = .70 value recommended for research purchase purposes (Leech, Barrett and Morgan, 2008). Scores on the moral outrage index range from 1 to 7 and could be calculated for an individual trade-off or for a group of trade-offs, such as routine trade-offs or taboo trade-offs.

Table 4

Eigenvalues

Component	Eigenvalue[a]	% of Variance	Cumulative %
A	6.62	50.94	50.94
B	1.40	10.75	61.70
C	1.19	9.18	70.88
D	.78	6.01	76.89
E	.56	4.31	81.20
F	.52	3.98	85.18
G	.40	3.09	88.27
H	.35	2.68	90.95
I	.33	2.58	93.53
J	.28	2.17	95.70
K	.22	1.72	97.42
L	.20	1.56	98.98
M	.13	1.02	100.00

[a]*n* = 117

Table 5

Component Matrix

	Component[a]		
Item	A	B	C
Ban	.44	.68	.03
Immoral	.44	.68	.00
Upset	.79	.37	.15
Sad	.85	.13	.17
Tragic	.87	.21	.12
Offend	.87	.25	.09
Anger	.85	.32	.07
Irrational	.26	.73	.24
Cruel	.33	.63	.02
Crazy	.25	.69	.25
Insulted	.28	.14	.82
Curtail	.03	.09	.88
Negative	.26	.68	.19

Note. Components extracted using varimax rotation.

[a]n = 117

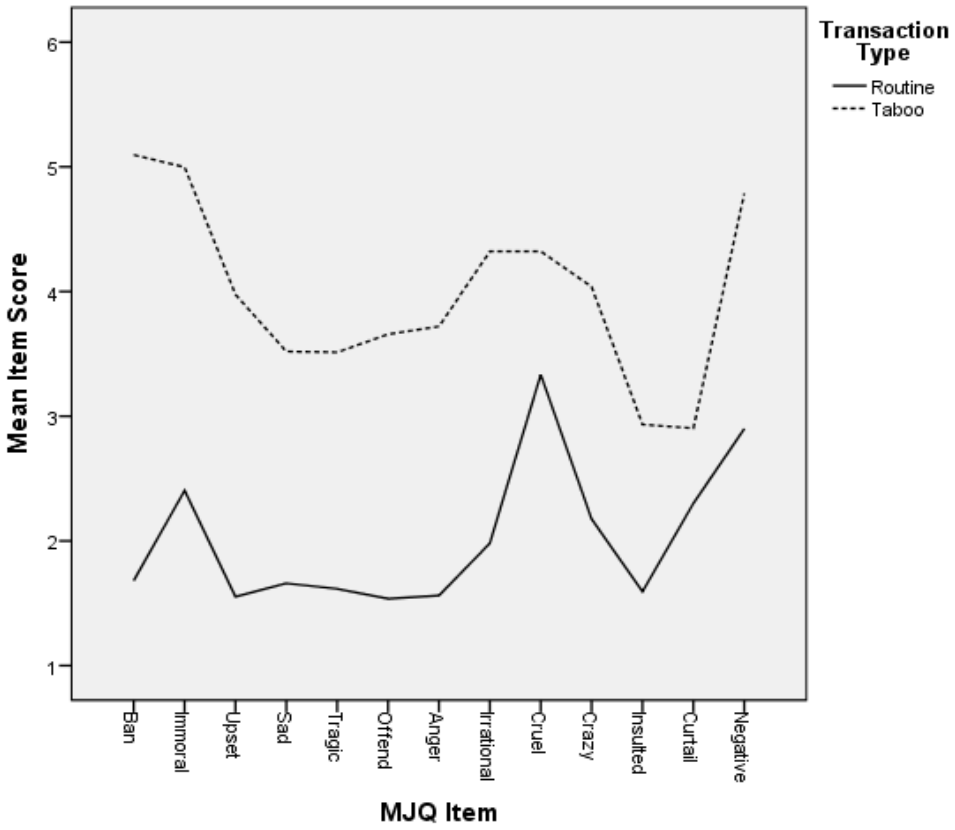

Figure 1.

Graphical representation of the mean scores for each of the items used in the principal components analysis according to trade-off type.

2.3.2.2 Moral outrage analysis

The moral outrage scores for routine and taboo trade-offs were non-normally distributed, however, the degree of skewness was moderate and with a sample size of 117 it was decided that parametric tests were appropriate. Mean moral outrage scores are reported in Table 6. Consistent with Hypothesis 1, participants expressed significantly more moral outrage when judging taboo trade-offs (M = 3.98, SD = .83) than when assessing routine trade-offs (M = 2.02, SD = .77), and the difference between the means was substantial and statistically significant $t(116) = 21.41$, $p < .0005$, $d = 2.45$. A one-way repeated measures ANOVA revealed no significant differences between the moral outrage scores of the four routine trade-offs $F(2.628, 304.879) = 1.67$, $p = .180$. By contrast, a one-way repeated measures ANOVA found statistically significant differences in moral outrage scores between the different taboo

trade-offs, $F(2.583, 299.668) = 50.87$, $p < .0005$, partial $\eta^2 = .31$. The taboo transaction that involved the exchange of money for votes in a political election generated the greatest moral outrage ($M = 4.90$, $SD = .10$), and it was statistically significantly higher than that associated with the other taboo trade-offs involving body organs ($M = 3.62$, $SD = .11$), $t(116) = 10.65$, $p < .0005$, $d = 1.13$, adoption rights ($M = 3.47$, $SD = .13$), $t(116) = 10.22$, $p < .0005$, $d = 1.19$ and jury service obligations ($M = 3.95$, $SD = .10$), $t(116) = 9.27$, $p < .0005$, $d = .90$. In addition, taboo transactions involving commodification of civic obligations elicited significantly greater moral outrage than taboo trade-offs associated with the commodification of the human being, $t(116) = 7.94$, $p < .0005$, $d = .87$.

Table 6

Moral Outrage Scores

	Routine Trade-offs	Taboo Trade-offs	
Moral Outrage[a]		Before PRI	After PRI
Mean	2.02	3.98	4.11
Std. Dev.	.77	.83	.99

[a]$n = 117$

The analysis of moral outrage component scores are reported in Table 7. In terms of the three components – affective, cognitive, and behavioural – the mean scores were higher for taboo trade-offs before exposure to policy revision information compared to routine trade-offs, and all differences were statistically significant after applying a Bonferroni adjustment for multiple comparisons. Specifically, component A for taboo trade-offs was significantly higher than component A for routine trade-offs, $t(116) = 17.05$, $p < .0005$, $d = 1.93$, similarly for component B, $t(116) = 22.91$, $p < .0005$, $d = 2.69$, and for component C $t(116) = 8.95$, $p < .0005$, $d = .86$. Furthermore, for the routine trade-offs the mean component B score was greater than the mean component C score, which was greater than the mean component A score, and the differences between the scores were statistically significant, $F(1.90, 221.586) =$

59.462, $p < .0005$, partial $\eta^2 = .34$. A different pattern of mean component scores was observed for taboo trade-offs with the mean component B larger than the mean component A score that was larger than the mean component C score and the differences were also statistically significant, $F(1.492, 110.398) = 86.321$, $p < .0005$, partial $\eta^2 = .43$.

Table 7

Moral Outrage Component Scores

	Routine Trade-offs	Taboo Trade-offs	
Components[a]		Before PRI	After PRI
Component A			
Mean	1.59	3.68	3.92
Std. Dev	.91	1.25	1.43
Component B			
Mean	2.41	4.59	4.64
Std. Dev.	.86	.76	.93
Component C			
Mean	1.95	2.92	2.99
Std. Dev.	.90	1.36	1.55

[a]$n = 117$

2.3.3. The Impact of Exposure to Policy Revision Information

2.3.3.1. The impact on moral outrage

In order to assess the impact of exposure to policy revision information on moral outrage, a repeated measures analysis was run involving one within-subject factor – time measuring moral outrage scores before and after exposure to policy information – and two between-subject factors – group and order. No significant interaction was found between time and order, $WL = 1.00$, $F(1, 109) = .02$, $p = .892$, or between time, treatment group, and order, $WL = .99$, $F(3, 109) = .52$, $p = .671$. Consequently, a new analysis was run without order, and a statistically significant interaction was observed between time and treatment group, $WL = .873$, $F(3, 113) = 5.49$, $p = .001$, partial $\eta^2 = .13$. Tests of simple effects revealed that policy review information only caused a significant effect on moral outrage in TG2 in which

participants were exposed to tragic reframing information only. Specifically, exposure to policy review information that reframed taboo trade-offs to be tragic trade-offs was associated with an unexpected and statistically significant increase in moral outrage, $F(1, 113) = 20.48$, $p < .0005$, partial $\eta^2 = .15$. Thus, Hypotheses 2a to 2c were not confirmed. Further analysis of the pairwise interaction contrasts showed that the change in moral outrage for TG2 was significantly different from the effect of policy information on each of the groups. To elaborate, for TG2 compared to TG1, $t(113) = 3.53$, $p = .001$, for TG2 compared to TG3, $t(113) = 3.52$, $p = .001$ and for TG2 compared to CG, $t(113) = 2.51$, $p = .013$.

A repeated measures analysis was also conducted that examined the impact of policy revision information on the affective, cognitive, and behavioural components of the moral outrage index. The analysis involved two within-subject factors – component and time – and two between-subject factors – group and order. Group had four levels corresponding to the three treatment groups and the control group, and order had two levels dependent upon the sequence in which trade-offs were initially presented, either routine first then taboo or, taboo first followed by routine. No interaction was found between time and order, $WL = 1.00$, $F(1, 109) = .02$, $p = .886$ and the only significant effect involving order was treatment group x component x order, $WL = .85$, $F(6,216) = 3.15$, $p = .006$, partial $\eta^2 = .08$; however, because it did not involve time this effect was not further investigated. The highest order interaction with a statistically significant effect was component x treatment group x time, $WL = .85$, $F(6,216) = 3.16$, $p = .005$, partial $\eta^2 = .08$. Tests of simple effects were undertaken to investigate the changes over time separately for each component. Pairwise interaction contrasts were also examined to compare changes over time between pairs of treatment groups, separately for each component. For both tests of simple effects and pairwise interaction contrasts, Bonferroni adjustments were made for the number of tests carried out. A statistically significant increase was found in both component A, $WL = .82$, $F(1, 113) = 25.14$, $p < .0005$, partial $\eta^2 = .18$, and component B, $WL = .93$, $F(1, 113) = 9.00$, $p = .003$, partial $\eta^2 =$

.07, over time for TG2 only. Interaction contrasts showed that the change over time was significantly different between TG2 and each of the other groups for component A. Specifically, between TG2 and TG1, $t(113) = 3.36$, $p = .001$, between TG2 and TG3, $t(113) = 2.99$, $p = .003$ and between TG and the CG, $t(113) = 3.51$, $p = .001$. While for component B change over time was only statistically significantly different between TG2 and TG1, $t(113) = 2.88$, $p = .005$ and between TG1 and TG3, $t(113) = 3.40$, $p = .001$.. By contrast, no significant change in moral outrage was found for component C, $WL = .97$, $F(1, 113) = 1.96$, $p = .164$.

The impact of policy revision information was found to have a differential impact on the different types of taboo trade-offs. Exposure to policy information did not cause any significant change in moral outrage for taboo trade-offs relating to civic duties (jury service obligations and votes in elections), $t(116) = .739$, $p = .462$. By contrast, exposure to policy information did cause a statistically significant increase in moral outrage for taboo trade-offs relating to the commodification of the human being (body organs and adoption rights), $t(116) = 3.52$, $p < .0005$, $d = .24$. Moreover, further analysis revealed that there was a significant interaction between time, type of taboo trade-off, and type of policy information, $WL = .91$, $F(3, 113) = 3.70$, $p = .014$, partial $\eta^2 = .089$, and that this interaction was driven by TG2 which was the only group significantly different from the control group $F(3, 113) = 4.37$, $p = .006$, partial $\eta^2 = .10$.

2.3.3.2 The impact on moral cleansing

In order to assess the impact of exposure to policy revision information on moral cleansing scores, a repeated measures analysis was run involving one within-subject factor – time, measuring moral cleansing scores before and after exposure to policy information – and one between-subject factors – treatment group, with four levels. Contrary, to predictions associated with Hypotheses 2d to 2f no main effect was found for time, $WL = .97$, $F(1, 113) =$

2.97, $p = .087$, and no significant interaction was found for treatment group, $WL = .97$, $F(3, 113) = 1.18$, $p = .321$.

2.3.4. Summary of Results

The manipulation check using the SVM supported the classification of the trade-offs into routine and taboo categories. Hypothesis 1 relating to the moral outrage hypothesis was confirmed with taboo trade-offs eliciting significantly greater moral outrage than do routine trade-offs. The expected impact of policy revision information on moral outrage and moral cleansing proposed in Hypotheses 2a-2c and 3a-3c was not confirmed. In fact, to the extent that a significant effect was found, it was in the opposite direction. Specifically, moral outrage significantly increased after participants were exposed to information designed to reframe a taboo trade-off to be a tragic trade-off.

2.4. Discussion

2.4.1. Main Findings

The findings of Study 1 sheds light on some of the central predictions of Tetlock's Sacred Value Protection Model (SVPM). Using a new measure of sacred values it was demonstrated that some trade-offs are regarded as taboo because they are associated with sacred values in a way that trade-offs regarded as routine are not. In accordance with the SVPM's moral outrage hypothesis it was found that taboo trade-offs evoked significantly higher levels of moral outrage in participants than did routine trade-offs. By contrast, little evidence was found to support the reality-constraint hypothesis. In particular, a high degree of impermeability of the sacred-secular barrier was revealed, such that the moral outrage associated with taboo trade-offs did not diminish when they were reframed as either routine trade-offs, tragic trade-offs, or both. In fact, when exposed to tragic-reframing of taboo trade-offs participants reported a significant increase in moral outrage and this increase was driven by significant increases in both the affective and cognitive components of the moral outrage measure. Furthermore, it

was found that the increase in moral outrage only occurred for taboo trade-offs associated with commodification of body and not for those associated with civic duties. Contrary to the predictions of the SVPM no significant results were reported for the moral cleansing hypothesis following exposure to the different reframing strategies. Taken as a whole these results revealed that taboo exchanges continued to exhibit a high degree of trade-off resistance following exposure to reframing strategies, indicating that the moral limits of markets at a point in time tend to be quite inflexible.

2.4.2. Sacred Values

The results reported for this study showed that the sacred value measure could distinguish between routine trade-offs and taboo trade-offs with the mean sacred value scores for taboo trade-offs being significantly higher than those for routine trade-offs. In addition, the mean sacred value measure scores for both routine trade-off scores and taboo trade-offs were of a similar magnitude to those found by Hanselmann and Tanner (2008). As discussed above this experiment used a new measure of sacred values developed by Tanner, Ryf and Hanselmann (2009), and as such has added to a small number of studies that have so far used this measure or an early prototype of it (Duc, Stikvoort, Lindahl & Daw, 2016; Hanselmann & Tanner, 2008; Tanner, Medin & Iliev, 2008). This new measure drew on the work of Tetlock et al. (2000) in its development, and can been seen as an important extension of Tetlock's approach which relied on moral outrage scores to both identify sacred values embedded within trade-offs, and also to measure the effect of threatening sacred values. The current study has used the sacred value measure to demonstrate that sacred values are the basis on which value trade-offs are distinguished as either taboo or routine. Prior to the development of this new measure studies tended to use single-item scales (Bartels & Medin, 2007; Tanner & Medin, 2004; Tanner, 2009) developed by Baron and colleagues (Baron & Spranca, 1997; Baron & Leshner, 2000; Ritov & Baron, 1999) to identify sacred or protected values associated with

particular decision contexts. Therefore, the study has contributed to a small growing literature establishing the effectiveness of this new measure.

2.4.3. The SVPM

2.4.3.1 Taboo trade-offs and moral outrage

The present study found that taboo trade-offs evoked significantly higher levels of moral outrage in people than do routine trade-offs. This finding supported a central prediction of the SVPM that claims when sacred values are threatened by secular values, people respond by expressing moral outrage. Furthermore, the levels of moral outrage found in this experiment were broadly consistent with those found in other studies of value trade-offs conducted explicitly with the SVPM framework (Tetlock et al., 2000; Wagland, Wastell & Ebrahimi, 2011). The findings are also consistent with the results of studies of taboo trade-offs conducted by scholars working outside of the SVPM framework. In particular, Baron and Spranca (1997), Hanselmann and Tanner (2008), and Lichtenstein, Gregory and Irwin (2007), all reported significantly higher levels of negative emotion associated with taboo trade-offs compared to routine trade-offs. It is important to note that the samples in all the above studies are drawn from university student populations in Western countries and this raises concerns about the ecological validity of the findings. That is why it is important to consider the results of studies done within the devoted actor framework reported below that are often based on field studies.

The results are also consistent with Ginges and Atran, and, their colleagues working within the devoted actor framework. For example, Dehghami et al. (2009) found that Iranians who endorsed Iran's nuclear program as a sacred value reacted with significantly greater anger when asked if they would give up the program in return for a monetary payment, than if they had not been offered the payment. Another example is Ginges et al. (2007) who studied the sacred values held by different parties in the Israeli-Palestinian conflict. Ginges et al.

reported that when a group in the conflict, say Jewish settlers, were given a monetary incentive to trade-off a sacred value, there was a significant increase in the levels of anger and disgust expressed by settlers. These researchers did not explicitly examine moral outrage but they did examine emotional reactions to trade-offs, and emotional reactions are an important component of measured moral outrage, as revealed by component A of the moral outrage index that encompassed the affective items in the MJQ.

2.4.3.2 Moral outrage, moral cleansing, and policy revision information

The most important issue examined in the present study concerned the trade-off resistance of sacred values, and it was found that sacred values continued to be trade-off resistant after exposure to policy revision information. In particular, people exhibited no significant decline in moral outrage after exposure to policy revision information, irrespective of whether the information involved routine reframing, tragic reframing or both. In addition, contrary to expectations, there was a significant increase in moral outrage following exposure to policy information that was designed to reframe taboo trade-offs as tragic trade-offs. Furthermore, the increase in moral outrage was only found for taboo trade-offs associated with commodification of people, and not found for those connected to the rights and duties of citizenship. This finding highlights the need to be both cautious about generalizing results relating to sacred values in certain domains of life to other areas, and the need to study decision making about sacred values from a range of different areas (Sacchi et al. 2014).

Based on analysis of the affective, cognitive, and behavioural components of the moral outrage index, increases in the affective and cognitive components were identified as the sources of the increase in moral outrage, with the affective component being the primary driver. This is an important finding in terms of the SVPM, because previous research by Tetlock (2000) found that a substantial minority of people, one-third, who had originally rejected taboo trade-offs, changed their minds and accepted the transaction after receiving

policy revision information that included both tragic and routine reframing information. This led Tetlock (2003) to suggest that people are "neither vigilant nor resolute defenders of the sacred" (p. 322). Similarly, working within their protected values framework, Baron and Leshner (2000), Experiment 6, found that 38% of participants who endorsed protected values were willing to trade them off if the probability of benefit was high (1.0), and the probability of harm was very low ($1/10^7$), leading Baron and Leshner (2000) to conclude that protected values are "strong opinions, weakly held". Consequently, an immediate question arises about how to reconcile the results of the current experiment with those of Tetlock, and Baron and colleagues. A number of possible explanations are suggested.

One possibility has been suggested by Lichtenstein, Gregory, and Irwin (2007) who in effect challenged the conclusion drawn by Baron and Leshner (2000) that protected values are "strong opinions, weakly held", by pointing out that in the key experiments conducted by Baron and Leshner the majority of participants didn't change their minds about protected values. This is also the situation with Tetlock (2000) in which the majority of participants did not alter their moral judgements and trade-off their sacred value. From this viewpoint the results of the current experiment are consistent with what was found for the majority of participants in Tetlock (2000), and Baron and Leshner (2000). Such a perspective reinforces the notion argued by Baron and Spranca (1997) that protected or sacred values are linked with deontological decision rules. Tanner et al. (2008) and Sacchi et al. (2014) reported a significant correlation between protected values and a deontological orientation in decision making. In addition, neuropsychological research has found areas of the brain associated with deontological thinking were activated when participants contemplated trading off a sacred value (Berns, Bell, Capra, Prietula, Moore, Anderson, Ginges & Atran, 2012). If participants rejected taboo trade-offs because allowing them would violate a deontological rule linked to a sacred value, then this would explain the ineffectiveness of reframing modulating moral outrage that relied on decreasing the negative consequences of allowing a taboo trade-off. The

current study does not shed any light on the role of deontological thinking in making moral judgements regarding taboo trade-offs, and efforts to illuminate this issue are pursued in Study 2 and Study 3 of this thesis.

A different explanation of the trade-off resistance of sacred values is suggested by recent developments in the field of moral psychology, in particular, the social intuitionist approach of Haidt (2001, 2007 & 2012), and the dual systems approach of Greene and colleagues (Greene 2008 & 2013; Greene et al. 2004; Greene et al., 2008; Paxton & Greene, 2010; Paxton, Ungar & Greene, 2011). Both Haidt and Greene believe that moral judgements typically precede moral reasoning and are based on moral intuitions that can be thought of as emotionally driven gut reactions (Greene & Haidt, 2002). In Greene's model initial moral judgements are made by System 1 (S1) that is characterized by fast, effortless, unconscious, and emotion-driven processing. However, they differ as to the role of moral reasoning with Haidt (2001) proposing that moral reasoning when activated following a moral judgement mainly serves as a vehicle for rationalizing and justifying that judgement. By contrast, Greene and colleagues (Paxton & Greene, 2010) claimed a stronger role for moral reasoning in assessing and revising moral judgements, rather than typically ratifying them as in Haidt (2001). In other words, from Haidt's (2001) perspective moral reasoning tends to function as an attorney prosecuting the case for the moral judgement, whereas from Greene's perspective moral reasoning tends to be more like a judge weighing up the for and against of a particular legal judgement while having an eye on the need for judgements to be consistent with each other and with underlying legal principles. Paxton and Greene (2010) made this point when they defined consistency with both other moral judgements and moral commitments, as a key aspect of moral reasoning. In addition, in the dual systems approach moral reasoning is undertaken by system 2 (S2), that is, an effortful, conscious, and controlled cognitive process based on consequentialist and specifically utilitarian principles (Greene et al., 2008). Consequently, in terms of the current study, if Haidt (2001) is correct then to the extent that

moral reasoning is activated by exposure to policy revision information it will in most situations have little effect on revising initial moral judgements about taboo trade-offs, and this is what the results have shown. In addition, moral outrage actually increased in the tragic reframing group and this is not inconsistent with this understanding. Whereas, if Greene's approach is correct, exposure to policy revision information had the potential to lead to some revision of initial moral judgements, because it was designed to reduce either the negative consequences or to increase the positive consequences of allowing taboo trade-offs to occur. Working against this possibility is the tendency for moral reasoning to achieve consistency between moral judgements. Therefore, Haidt, and to a lesser extent Greene and colleagues' understanding of the relationship between moral judgement and moral reasoning, has provided a basis for explaining the trade-off resistance of sacred in the face of policy revision information. This interpretation of the current experiment is speculative because it is not possible to determine if moral reasoning was activated by the policy revision information. It is just as possible that the policy revision information simply resulted in another emotionally driven gut reaction. In order to get a better understanding of the role of moral reasoning in moral judgements about taboo trade-offs, another study is required to more carefully distinguish between moral judgements made as result of S1 processing and those made as result of S2 processing in Greene's model. This line of investigation is pursued in Study 3.

Two further issues, the problem of closed world assumptions and the counting problem, may have contributed to the failure to find a significant decline in moral outrage following exposure to the policy revision information. One of the issues related to whether the taboo trade-offs were too abstract and allowed participants too much room for imaginative elaboration. Bennis, Medin and Bartels (2010) highlighted the issue of closed-world assumptions in the study of moral judgement with particular reference to trolley problems. They argued that it is difficult to prevent participants from imaginatively elaborating the experimental stimuli in the course of making judgements and that this elaboration can make it

hard to infer both the reasoning behind the moral judgement and the meaning of the judgement. For example, in the moral dilemma known as the footbridge case (Thompson, 1985 & 2008), a runaway trolley (railway carriage) on a rail line is headed toward five workman who can't escape the trolley and will all be killed when the trolley collides with them. A bystander on a footbridge overlooking the rail track is standing next to a large stranger. The bystander knows that they are too small to derail the trolley if they threw themselves on to the tracks but the large stranger would be big enough to derail the trolley if they were thrown onto the tracks. Should the bystander push the large stranger on to the tracks, killing him but saving the five workmen? If a participant responded "No" it is typically inferred they are basing their moral judgement on a deontological rule that says something like, "Thou shall not do harm", or, "Thou shall not kill". However, if the participant had elaborated the stimuli by questioning whether the large stranger's dead body would actually stop the trolley, then the "No" response, might not be based on a deontological rule but based on a consequentialist calculation that not pushing the large stranger results in only five deaths but pushing them would likely result in six deaths.

In terms of the current experiment the issue of closed-world assumptions may have prevented participants from revising their moral judgements in the light of the policy revision information. For example, when contemplating whether to permit a market for body organs that will save many lives, participants may well have added questions about whether the monetary exchanges would be conducted in a legal market or a black market, whether the sellers would be only from poor countries, what organs or body parts would be sold, would the organs come from living people or from people once they had died, among other things. These added concerns may have not simply maintained the original moral judgement but even made participants more outraged, as was found in TG2. In order to attempt to limit the issues associated with closed-world assumptions, more detailed information could be provided that informs participants that the proposed exchanges would occur in a legal national market to

deal with concerns about legality and exploitation of the poor in developing countries. This issue is explored in Study 2.

Mallon and Nichols (2011) have discussed the "counting problem" in the context of the moral dilemmas typically studied in both moral psychology and moral philosophy. The counting problem refers to the currency of particular moral dilemmas in people's lives. In the current study it refers to the familiarity people have with the moral dilemmas represented by the taboo trade-offs, and may also have implications for the issue of closed-world assumptions, because the less familiarity people have with a dilemma the more likely they may be to imaginatively elaborate the stimuli. For example, there is very little contemporary debate around markets for jury service obligations, political votes and even a market for adoption rights. However, there is a great deal of discussion about significant organ shortages for medical transplants, transplant waiting lists and what can be done to increase the supply of organs for transplant. Consequently, future experiments will focus on kidney markets in an effort to deal with the dual concerns of the counting problem and closed-world assumptions.

So far the discussion has focused on explaining why the expected decline in moral outrage did not materialize. However, what also needs explaining is the increase in moral outrage reported for the tragic reframing group. The most likely explanation is that the tragic reframing information failed to transform the taboo trade-offs into tragic trade-offs. Most of the existing research (Tetlock et al., 2000; Hanselmann & Tanner, 2008) indicated that tragic trade-offs, while being the most cognitively and emotionally difficult, are more morally acceptable to trade-off than are taboo trade-offs. Therefore, a significant reduction in moral outrage for TG2, was expected following exposure to policy revision information. It follows that one explanation of this finding is that the tragic reframing information was not effective and may have perversely made the tragic trade-offs more taboo. The evidence most supportive of this interpretation are the mean decision difficulty scores for each of the groups, because they show that the score for TG2 was the lowest, and the only one that was

significantly lower than the highest scoring group, TG3. This indicates that the tragic reframing information has perversely reframed the taboo trade-offs to be more taboo. Further evidence for this argument is the finding that the increase in moral outrage for TG2 was driven primarily by an increase in the affective component of the moral outrage index. In addition, recall that the increase in moral outrage occurred only for taboo trade-offs associated with the commodification of the human being, and did not occur for taboo trade-offs concerned with civic duties. Bringing these findings together in the case of the body organs trade-off, it is possible that when participants in TG2 were asked to allow such a transaction to occur because it would save many lives, they experienced this as making the transaction more taboo, and thus engendering more moral outrage. Such a reaction is broadly consistent with a modified type of "backfire effect" proposed by Ginges and colleagues (Ginges, Atran, Medin & Shikaki, 2007; Ginges & Atran, 2009) who found that when monetary incentives were increased to trade-off a sacred value, moral disapproval and anger increased rather than diminished. The situation outlined here is somewhat different because it is not money that is being added or increased to allow the trade-off, but rather what money can buy is being increased from a body organ to a life. In the light of the above discussion it was decided to examine this issue in a pilot study.

The expected impact of the policy revision information on moral cleansing was not found. Given that none of the reframing strategies were effective in alleviating moral outrage, it is not surprising that the desire to engage in moral cleansing did not diminish. However, it may have been expected that the desire to engage in moral cleansing would have increased for TG2 given that there was a significant increase in moral outrage after exposure to tragic reframing information. In fact, as reported this effect was also not found. From an empirical point of view the sensitivity of the moral cleansing measure currently in use can be questioned. In Tetlock et al., (2000) predictions regarding moral outrage were more regularly supported than they were for moral cleansing. In particular, Tetlock did not find a main effect

for moral cleansing and only found it for certain sub-groups of the sample. Recently Stikvoort et al. (2016) used a different way of measuring moral cleansing based on a combination of hypothetical and real donation behaviour and found that exposure to taboo trade-offs affected real but not hypothetical moral cleansing behaviour. Tetlock's measure is a hypothetical measure and this may account for difficulties in finding significant effects.

On a cautionary note, two points should be made about the policy revision information. Firstly, it is possible that the difference in decision difficulty scores between TG2 and TG3 is because the policy revision information in TG2 is shorter and less detailed, than that in TG3. |Consequently, the cognitive load is less, the decision easier to make and a difference in decision difficulty scores is found, but it is based on differences in load and not differences in reframing strategies. In Study 2 and Study 3 greater effort is made to control for cognitive load across different treatment groups. Secondly, in the routine framing condition policy revision information was typically aimed at addressing concerns about equity and fairness. However, the benefits associated with the policy initiatives were not always made explicit, whereas in the tragic reframing condition they were thus introducing a possible confound.

2.4.4. Conclusion

Study 1 examined the key propositions of the SVPM and found, consistent with other research, support for the idea that sacred values are associated with market exchanges regarded as taboo. This indicated that sacred values are crucial in demarcating the sacred from the secular and the market from the non-market realms. Consistent with other research, support was also found for the moral outrage hypothesis, which showed that when sacred values are threatened people will respond with moral outrage, and this serves to maintain the barrier between the sacred and the secular realms or the non-market and market domains. Evidence for the proposition regarding moral cleansing, however, was not found. The key

finding regarding the reality-constraint hypothesis described in Tetlock (2000 & 2003) was not replicated, and thus it was not possible to shed light on the primary question the study was designed to examine. In fact, consistent with the key features of sacred or protected values the study found that they were quite resistant to trade-off, despite being challenged by a variety of reframing strategies. In particular, the routine reframing strategy did not produce any significant change in moral outrage and will not be investigated further. By contrast and unexpectedly, exposure to a tragic reframing strategy resulted in participants strengthening their original moral judgements, and this reframing strategy will be examined in subsequent studies. Consequently, a provisional finding of the study is to reaffirm that sacred values are important in determining the moral limits of markets. However, a number of issues have been raised in the discussion of results that will be addressed in the following studies to test this conclusion.

CHAPTER 3

PILOT STUDY

3.1. Introduction

The purpose of the Pilot Study was to test whether a market for kidneys to save lives generated more moral outrage than a market for kidneys for medical transplant. If this hypothesis was confirmed it would be the first step in explaining why participants in TG2 in Study 1 reported a significant increase in moral outrage after exposure to policy revision information that reframed taboo trade-offs as tragic trade-offs. On the basis that Study 1 had (i) only found a significant change in moral outrage for those taboo trade-offs associated with commodification of people, and (ii) given that Study 2 and Study 3 would focus on kidney markets, the taboo trade-off examined in the pilot study involved the exchange of money for kidneys.

To elaborate, the increase in moral outrage reported by participants in TG2 indicated that the policy revision information had not been effective at rhetorically reframing the taboo trade-off into a tragic trade-off. It is important to recall that for Tetlock (2003) the tragic reframing strategy is a rhetorical strategy that reframes a taboo trade-off as a tragic trade-off without changing its fundamental taboo status. This is because the trade-off continues to involve monetary exchange. In fact, the secular value, money, facilitates the trade-off of one sacred value for another. A taboo trade-off that has been tragically reframed using a rhetorical strategy is different from an actual tragic trade-off that pits one sacred value against another sacred value, without any co-mingling with secular values. According to Tetlock (2003) tragic reframing allows people to turn away from the monetary aspect of the taboo trade-off that undermines a sacred value. Therefore, from the point of view of Tetlock (2003) both the exchange of money for a kidney for medical transplant and the exchange of money for a kidney to save a life are taboo trade-offs not tragic trade-offs. Consequently, the Pilot Study

was designed to test whether, as standalone transactions, money for kidneys to save lives generated more moral outrage than money for kidneys for medical transplant, and if it did this would indicate that the former was more taboo than the latter. By contrast, if money for kidneys to save lives generated less moral outrage than money for kidneys for medical transplant this would indicate that the former was less taboo than the latter.

3.2. Method

3.2.1. Participants

A total of 63 people participated in the online experiment. They were recruited using the survey company Qualtrics and were rewarded in a variety of ways including in-kind payments, such as vouchers for particular stores and small financial payments, approximately equal to $1. Of the sample 34 (54%) were males and 29 (46%) were females. The participants ranged in age from 19 to 59 years with an average age of 31 years. In terms of the highest level of educational attainment, 64% had completed a post-secondary school qualification while 36% had completed secondary school. In order to increase comparability with earlier experiments, participants had to be currently enrolled at an Australian university. Of those sampled 28% were enrolled in a business program, 16% in arts (including law) and 57% in the human and natural sciences. In addition, 52% indicated they had no religious affiliation and 48% said they did, and of those 77% identified as Christian.

3.2.2. Experimental Design

Participants were randomly assigned to one of two treatment conditions in a design with one independent variable with two levels. The independent variable was taboo trade-off strength and had two levels, weak and strong. The size of the groups was set to have an 80 per cent chance of finding a strong medium effect size (Cohen's d = .6 to .7) with α = .05 (Hanna & Dempster, 2012). Taboo trade-off strength was manipulated by varying what money was explicitly able to buy. In the weak treatment group (TG1, n = 34) participants were asked to

make a moral judgement about kidney markets for medical transplants. In this case money was buying a medical transplant. By contrast, in the strong treatment group (TG2, $n = 29$) participants were asked about kidney markets that saved lives, in this case money being exchanged for lives saved. In other words, in the strong group, the link between kidney markets and saving life was made explicit, whereas in the weak group the link was implicit, with participants having to make the connection between a market for the exchange of kidneys for medical transplants operating and lives being saved. The dependent variables were moral outrage and moral acceptability.

3.2.3. Instruments

3.2.3.1 Moral judgements questionnaire (MJQ)

To assess reactions to value trade-offs, participants filled in the MJQ used in Study 1. In particular, the MJQ measures the moral outrage evoked by value trade-offs and also the desire to engage in an act of moral cleansing after contemplating a value trade-off. However, for the Pilot Study the moral cleansing item was not used. The questionnaire is based on Tetlock et al. (2000), Experiment 1, and was fully described in the method section of Study 1.

3.2.4. Procedure

Participants responded to a request by Qualtrics to participate in a survey and were sent a link to the survey. They were asked if they were currently enrolled at an Australian university and if they answered in the affirmative they continued with the survey, and if they answered in the negative they were taken to the end of the survey and thanked but not allowed to participate further. If they answered in the positive they were asked to read an information and consent page and told that if they clicked on the "next" button they were providing consent. The information and consent form informed participants that the study had been approved by the Macquarie University Ethics Review Committee for Human Research and provided contact information about how they could make a complaint should they wish.

Participants then completed a demographic questionnaire that gathered information on gender, age, educational attainment, field of study at university, marital status and religious affiliation. Participants were then randomly allocated to one of two experimental groups. In the first group they were asked to evaluate the moral acceptability of a market for kidneys for medical transplants using the moral judgements questionnaire. In the other group participants were asked to evaluate the moral acceptability of a market for kidneys to save lives using the same questionnaire.

3.3. Results

3.3.1. Moral Outrage

As discussed in the results section for Study 1, Tetlock et al (2000) referred to the construction of a moral outrage index from the Moral Judgements Questionnaire (MJQ). However, because the subscales of the index were not going to be examined in the Pilot Study a principal components analysis was not repeated and mean moral outrage scores were calculated based on the 13 items measuring moral outrage in the MJQ. A reliability analysis was conducted on the MJQ items to test the internal reliability of the scale and a Cronbach's α = .93 was found, that is above the α = .70 value recommended for research purchase purposes (Leech, Barrett and Morgan, 2008).

An analysis of the mean moral outrage scores of the transplants group (M = 3.52, SD = .95) and the saving lives (M = 3.79, SD = 1.52) group was statistically non-significant, $t(61)$ = .827, p = .411.

3.3.2. Moral Acceptability

Separate analyses were performed on the first two items of the Moral Judgements Questionnaire, as these two items are closest to the item that participants will be asked to complete when making moral judgements in Study 2 and Study 3. Item one asked participants to rate whether the proposed market should be banned or permitted, and the second item asked them to rate whether the proposed market was highly immoral or highly moral. For the first item participants in the transplant group recorded a higher score (M = 4.15, SD = 1.26) than those in the saving lives group (M = 3.38, SD = 1.92), $t(61)$ = 1.91, p = .062, d = .50. By contrast, no significant difference was found between the two treatment groups for item two, $t(61)$ = 1.03, p = .294.

3.4. Discussion

The aim of the pilot study was to examine the relative strength of the taboo trade-off associated with kidney markets. Study 1 had found that participants who were told, among other things, that permitting kidney markets would result in large numbers of lives being saved, had unexpectedly become more morally outraged, and the increase was statistically significantly. In keeping with Study 1 a mean moral outrage index score was calculated and the absence of a significant difference between the two taboo trade-offs suggested that people readily made the link that kidney exchanges for medical transplants resulted in more lives being saved. In other words, both transactions were judged to be as taboo as each other. It should be noted that both mean moral outrage scores were less than four, which was the value for neutral on the scale. Thus, the question could considered as to whether either could be

classed as taboo trade-offs. However, when using a single item measure of moral acceptability similar to what is used in Study 2 and Study 3, it was found that permitting kidney markets to save lives was significantly less morally acceptable than permitting kidney markets for medical transplant. While the difference is not statistically significant at $\alpha = .05$ it is statistically meaningful at $\alpha = .10$ and has a medium effect size. Lee, Whitehead, Jacques, and Julious (2014) have argued that for pilot studies it is reasonable to increase the level of significance to as high as $\alpha = .25$. In the light of this, it was decided to explore the impact of the difference in taboo trade-off strength when constructing tragic trade-off reframing information in Study 2. In addition, the moral acceptability score was less than the neutral value of four in the case of the saving lives group, which means that it can arguably be classified as a taboo trade-off.

CHAPTER 4

STUDY 2 – Moral Judgements about Market-Based Solutions to the Kidney Shortage

4.1. Introduction

Study 1 raised a number of possibilities as to why the expected impact of policy revision information did not materialize. One possibility involved the issue of closed world assumptions. To elaborate, Bennis et al. (2010) discussed how imaginative elaboration of stimulus material can potentially impact on the responses given by participants, and also how to interpret them. In terms of the body organs market in Study 1, participants could have wondered if the market would be national or international, and if so would sellers only be from poor countries and buyers from rich countries, or, if the market would be legal or illegal, or, would the market be for body organs from living people or from deceased people, or, both. Any, or, all of these factors may have created reasons for not revising moral judgements in the light of the policy revision information. Another possible reason for not finding any effect for the policy revision information is associated with the "counting problem" raised by Mallon and Nichols (2011). The counting problem refers to the frequency of particular moral dilemmas in the real world. In the light of this, Study 2 focused on the exchange of money for kidneys from either a deceased person or a living person.

The issue of the counting problem was well handled by focussing on kidney markets, because finding a solution to the global and Australian shortage of kidneys for medical transplantation is a well-documented moral dilemma. For example, in Australia there have been news reports and medical articles detailing the kidney shortage in Australia, as well as the use of international black markets by Australians to source kidneys (Mathew, Faull & Snelling, 2005; Dunlevy, 2016). In addition, there have been media reports of potentially dangerous medical procedures – cleaning kidneys of deceased cancer patients – to increase

the domestic supply of cadaver kidneys (Sami, 2015), and government initiatives to train doctors and nurses to counsel next of kin about the wishes of deceased relatives to increase cadaver donations (Donate Life, 2016). Moreover, there have been many calls globally (The Economist, 2008) and in Australia (Alberici, 2006) for kidney markets to be considered a legitimate solution to the kidney shortage. Therefore, it was assumed that moral dilemmas associated with resolving the shortage of kidneys for medical transplant had a reasonable degree of currency among the general public and represented an effective way of resolving the counting problem.

However, because the shortage of kidneys for medical transplant was a well-documented moral dilemma it raised the issue that it may have been more difficult to resolve the problem of closed world assumptions. For example, news stories of black market transactions and transplant tourism to poorer countries would make it easy for participants to imaginatively elaborate stimulus material about kidney markets in the laboratory. One way of dealing with this was to make the stimulus material both more realistic and detailed. In other words, to close the world, more of the world was brought into the laboratory. In this study the stimulus material contained information that was broadly consistent with actual data for Australia on the extent of the kidney shortage that is publically available. The issue of the legality of a proposed market was dealt with by explicitly telling participants that kidney markets were currently illegal but that the proposed market would be legal. Issues that the poor of the developing world would supply the kidney market were addressed by making it clear that the market would be a national market. Finally, concerns about weak agency and coercion were addressed by clearly distinguishing between whether the kidney market was for kidneys from living or deceased people. Therefore, participants exposed to the stimulus material were considering a kidney shortage consistent with what is faced in Australia and are considering an option for a legal national market for live or cadaver kidneys. In order to try and ensure participants understood this stimulus material in accordance with its intended

meaning, manipulation checks similar to those used by Sacchi et al. (2014), of the validity and effectiveness of the proposed markets were included in the analysis.

In Study 1, reframing taboo trade-offs as routine trade-offs in a manner that dealt with concerns about unequal market power between buyers and sellers, coercive market exchanges and extreme market outcomes, was not effective in altering moral judgements. However, attempted reframing of taboo trade-offs as tragic trade-offs was effective at changing moral outrage, but in the opposite direction to what was expected. One possibility was that the reframing information was processed in a way that increased the taboo aspect of the trade-off. The Pilot Study provided support for this interpretation by finding that a market for kidneys to save lives was less morally acceptable than a market for kidneys for medical transplants. In order to more effectively reframe a taboo trade-off as a tragic trade-off, a policy manipulation strategy from Sacchi, et al. (2014) was adopted. The manipulation involved exposing participants to one of two policy conditions, a positive policy condition or a negative policy condition.

Sacchi et al., (2014) used this policy manipulation strategy in the context of examining moral judgements about a market-based solution to climate change, and thus a natural extension was to use this strategy to examine moral judgements about market-based solutions to the kidney shortage. In the context of Study 2, the negative policy condition was designed so that a market for kidneys was allowed to operate, but this did not result in an overall increase in the supply of kidneys available for medical transplant. Consequently, the policy intervention to allow a market for kidneys did not reframe the taboo trade-off as a tragic trade-off because allowing the market did not result in more transplants and lives saved. This negative policy condition is consistent with the well-known argument developed by Titmuss (1971) about the effects on the supply of blood of allowing a market to operate based on a

comparative analysis of the systems of blood collection in the United Kingdom and the United States.

Titmuss (1971) argued that allowing a market to operate in a situation where an altruistic system of blood donation was already in place led to market driven supply crowding out altruistic supply. The decline in altruistic donation would occur because the meaning of donating would be corrupted by the operation of the market. Sandel (2012) pointed out that this was a good example of his corruption argument, whereby converting a non-market object or activity to its cash equivalent changed it fundamentally. Consequently, altruistic donors no longer felt they were giving the "gift of life" but giving something that could be bought, with attendant deleterious effects on their willingness to donate.

By contrast, the positive policy condition was designed to effectively reframe a taboo trade-off into a tragic trade-off. The trade-off became tragic because allowing the market to operate resulted in an increase in the overall supply of kidneys for transplant and lives saved. So the positive policy condition was designed to activate a sacred value associated with saving lives, thus creating a tragic trade-off that pitted saving lives against treating people as commodities. As pointed out by Sandel (2012), the argument embedded in the positive policy condition was consistent with the idea put forward by economists that commodifying an object, activity, or relationship, does not fundamentally change it. Sandel drew attention to the fact that this argument was deployed by the Nobel Prize winning economist, Kenneth Arrow (1972) in his response to Titmus (1971):

> Economists typically take for granted that since the creation of a market increases the individual's area of choice it therefore leads to higher benefits. Thus, if to a voluntary blood donor system we add the possibility of selling blood, we have only expanded the individual's range of alternatives. If he derives satisfaction from giving, it is

> argued, he can still give, and nothing has been done to impair that right. (Arrow, 1972, pp 349-350; cited in Sandel, 2012, pp 125-126)

Study 2 also examined two types of kidney market, the market for kidneys from living people and the market for kidneys from deceased people. Kanbur (2004) and Satz (2010) both identified weak agency and unequal bargaining relations as factors that make markets noxious. In particular, the combination of these two factors increases the likelihood that the market process will generate outcomes that are extremely harmful. Satz (2010) has indicated that this combination of factors is likely to be present in the market for kidneys, especially when the kidneys exchanged are from living persons. To elaborate, a person who knows that they can lead a normal life with one healthy kidney and is fully aware of the risks, decided to sell a kidney. At a later date they experience either a decline in their health due to the nephrectomy or kidney failure for another reason and they are overcome with regret that they sold their kidney in the first place. Their situation is made worse if they are unable to afford to buy a kidney at the market price. In such a situation the person is said to suffer weak agency because they could not accurately either predict their future health state or how they would feel about it.

To support the argument that weak agency is acutely present in live kidney markets Satz (2010) cited a study by Goyal et al., (2002) which found that of the 305 kidney sellers surveyed in Chennai, India, 96% sold a kidney to pay off debt, 79% regretted their decision and would not recommend that others sell a kidney, and 86% reported a deterioration of their health following the kidney removal. Also on average, family income declined following kidney removal mainly due to post-surgical complications impacting on capacity to work. From this example, it was also clear how the problem of weak agency dovetails with concerns about extreme outcomes and coercion associated with kidney markets. Obviously, the problem of weak agency does not arise with cadaver kidney markets and the problems

associated with coercion and extreme outcomes are also diminished. Consequently, cadaver markets are likely to be more morally acceptable than live kidney markets. In addition, to the extent that this is true, including specific information in the policy condition manipulation about the type of kidney market participants were asked to judge, decreased the likelihood of participant speculation, and thus helped to address the issue of closed world assumptions discussed above.

The finding from the Pilot Study about differential taboo trade-off strength was built into the policy condition information to see if it had an impact on judgements of moral acceptability. Specifically, policy information was manipulated so that some participants would be exposed to information about how the operation of a kidney market would impact on the availability of kidneys for medical transplant. This type of policy information was called low tragic reframing information because the life-saving potential of the market was implicit. Other participants would be exposed to information about how the operation of the market would impact on the number of lives saved and this type of information was called strong tragic reframing information because the life-saving potential of the market was explicit. Based on the results of Study 1 and the Pilot Study it was expected that the implicit information would be more effective at increasing moral acceptability.

Study 2 was different from Study 1 in three other important ways that tilted its orientation more towards the protected values framework developed by Baron and colleagues (Baron & Leshner, 2000; Baron & Spranca, 1997; Ritov & Baron, 1999). Firstly, the sacred value measure used is adopted from Ritov and Baron (1999), and is a nominal measure that will function as a manipulation check that the transactions classified as taboo are associated with a sacred value in way that the transactions classified as routine are not. Secondly, the judgements about the moral acceptability of market exchanges were made using a single-item measure rather that the 13-item moral outrage index developed by Tetlock et al. (2000). The

reason for this was that Study 3 explored the relationship between time and moral judgement and some participants had very little time, specifically around 8 seconds, to make a moral judgement. Consequently, a 13-item measure could not be completed in less than 8 seconds. Therefore, a single-item measure was used in Study 2 to facilitate comparisons with results found in Study 3. Thirdly, Baron and Spranca (1997) proposed that sacred values give rise to deontological rules that protect the value from threat. For example, if the idea that "each human life is precious" is a sacred value then a rule such as "thou shall not kill" protects that value. In order to explore whether sacred values are underwritten by deontological rules, the deontological and consequentialist orientation scale (DCOS) developed by Tanner, et al. (2008) was completed by participants.

4.1.1. Hypotheses

The aims of the study were to test (i) the SVPM's moral outrage hypothesis using a moral acceptability measure (ii) the SVPM's reality-constraint hypothesis after adjusting the stimulus material to take into account the issues of closed world assumptions and the counting problem (iii) whether moral acceptability of kidney markets varies with the type of kidney market being considered (iv) whether the moral acceptability of kidney markets varies with tragic trade-off strength. The specific hypotheses are set out below.

Based on the work of Tetlock and colleagues (Telock, 2000; Tetlock et al., 2000) routine trade-offs compared to taboo trade-offs are expected to have significantly higher moral acceptability scores:

> Hypothesis 1: Before exposure to policy condition information, moral acceptability scores for routine trade-offs involving transactions with food and mobile phones will be higher than for taboo trade-offs, involving transactions with kidneys.

Weak agency and vulnerability have been identified by economists (Kanbur, 2004) and philosophers (Satz, 2010) as a reason why markets for body organs, particularly kidneys, may

be viewed as morally unacceptable and banned. However, the problem of weak agency and vulnerability is only relevant for markets trading in kidneys from living persons and is irrelevant for markets trading in kidneys from deceased people:

> Hypothesis 2: Before exposure to policy condition information, moral acceptability scores for transactions involving kidneys from deceased people will be greater than those for transactions involving kidneys from living people.

Following Sacchi et al., (2014) it is expected that because the positive policy condition reframes the taboo trade-off to be a tragic trade-off, participants exposed to the positive policy condition will report a significant increase in moral acceptability scores for kidney markets. By contrast, because the negative policy condition maintained the trade-off as taboo, no significant change is expected in moral acceptability scores for kidney markets:

> Hypothesis 3: Participants exposed to the positive policy condition will report an increase in moral acceptability scores for kidneys markets.

Based on the Pilot Study, it is expected that the strength of the tragic trade-off reframing information will impact on the effectiveness of the policy condition information. Specifically, it is expected that participants exposed to the low tragic trade-off reframing information will report a greater increase in moral acceptability scores following exposure to the positive policy condition information, than those exposed to high tragic trade-off reframing information:

> Hypothesis 4: The change in moral acceptability scores of participants exposed to the low tragic trade-off reframing information, will be greater than the change in moral acceptability scores of those exposed to high tragic trade-off reframing information in the positive policy condition.

Sacchi et al. (2014) found that participant's approval of a market-based solution for climate change varied negatively with mean deontological scores and positively with mean consequentialist scores. Therefore, the same pattern of results was expected for market-based solutions to the kidney shortage:

> Hypothesis 5a: Participants who disapproved of the proposed kidney market will have mean deontological scores higher than their mean consequentialist scores, following exposure to policy condition information.
>
> Hypothesis 5b: Participants who approved of the proposed kidney market will have mean consequentialist scores higher than their mean deontological scores, following exposure to policy condition information.

4.2. Method

4.2.1. Participants

Three hundred and one students from Australian universities participated in the study. They were recruited using the survey company Qualtrics and were rewarded in a variety of ways including small financial payments of approximately $1 and in-kind payments, such as vouchers for particular stores. In terms of gender, 79 (26%) were male and 222 (74%) were female. The average age of males and females was 20.4 and 20.1 years respectively. In terms of marital status 88% had never been married, while in terms of the highest level of educational attainment 67% had completed high school and 20% had completed a college or university degree. In addition, 52% expressed no religious affiliation and 48% did, with 67% of these identifying as Christian. Participants were drawn from a wide range of disciplines with 31% majoring in the natural sciences, 20% in business and economics, 18% in arts, 17% in the human sciences, 10% in medicine, and 4% in law.

4.2.2. Experimental Design

Participants were randomly assigned to one of six treatment groups. There were three independent variables and all were between-subjects variables. The first independent variable was policy condition information with two levels, positive policy information and negative policy information. In the positive condition, a panel of economists and public policy experts examined the operation of a proposed kidney market and found that it would increase the number of kidneys for transplant. By contrast in the negative condition the panel of experts concluded that the operation of a proposed kidney market would not increase the supply of organs. The second independent variable was type of kidney market, which also had two levels, live kidney markets and cadaver kidney markets. The third independent variable was tragic trade-off strength which had two levels, low and high. In the high condition participants were told that there was a waiting list for kidney transplants and people were dying each year while waiting. They were also told that, if there was an increase in the availability of kidneys from the operation of the market it would save lives. By comparison, in the low condition participants were only told there was a waiting list for kidney transplants, and if the operation of the market increased the number of kidneys available they were only told it resulted in more transplants. The three independent variables combined to create six treatment groups: The size of the groups was set to have an 80 per cent chance of finding a strong medium effect size (Cohen's d = .6 to .7) with α = .05 (Hanna & Dempster, 2012). In treatment groups one and two (TG1, n = 49 and TG2, n = 50 respectively), the tragic trade-off strength was low and participants were asked to consider a market for kidneys from deceased people for medical transplant. By contrast, in treatment groups three to six (TG3, n = 51; TG4, n = 51; TG5, n = 49 and; TG6, n = 51) participants were asked about a market for kidneys from living persons to be used for medical transplant, and in TG3 and TG4 taboo trade-off strength was low and in TG5 and TG6 it was high. In TG1, TG3 and TG5 the policy condition information

was positive and in TG2, TG4 and TG6 it was negative. The key dependent variable was moral acceptability.

4.2.3. Instruments

4.2.3.1. Sacred value measure

The sacred value measure was developed by Baron and colleagues (Baron & Spranca, 1997; Ritov & Baron, 1999) and has subsequently been used by other researchers (for example Bartels, 2008; Bartels & Medin, 2007). The measure is designed to determine whether people hold a sacred or protected value about a particular activity, place, topic or object. Specifically, people are asked to endorse one of three responses that best represents their attitude toward a particular activity, place, topic or object. The three responses are: (a) Is not something I object to (b) Is acceptable if it leads to some sort of benefits (money or something else) that are great enough (c) Is not acceptable no matter how great the benefits. If participants endorse (c) they are classified as possessing a sacred or protected value about the activity, place, topic or object, and if they endorse either (a) or (b) they do not hold such a value. Participants in the current experiment were asked about three topics: (i) A market for food; (ii) A market for body organs for medical transplantation and; (iii) A market for mobile phones.

4.2.3.2 Moral judgement scale

Participants made moral judgements about the value trade-offs using a *7*-point scale ranging from 1 = *completely unacceptable* to 7 = *completely acceptable* (4 = *neutral*). A similar scale had been used by Greene and colleagues when studying moral judgements and reasoning (Paxton, Ungar & Greene, 2011).

4.2.3.3 Deontological and consequentialist orientation scale (DCOS)

The DCOS has not been used extensively in psychological and decision-making research since it was introduced by Tanner, Medin and Iliev (2008). However, it was used by Sacchi et al. (2014) in their examination of moral judgement and reasoning about market-based solutions for climate change. The scale measures the style of moral reasoning people use when thinking about a moral dilemma and is comprised of eight items. Four items measure deontological orientation and four items measure consequentialist orientation. Previous studies found that the DCOS had good internal consistency using Cronbach's α: Tanner et al., reported a Cronbach's α of 0.81 for the deontological items and .62 for the consequentialist items, and Sacchi et al. reported Cronbach's α of .70 for each set of items. The current experiment followed Tanner et al., in that after participants had made a moral judgement about a dilemma they completed the DCOS in terms of the option they chose. From this perspective, the items on the DCOS were potential reasons for a participant's decision. Participants used a 7-point scale ranging from 1 = *absolutely not*, to 7 = *absolutely yes* (4 = *neutral*) when completing the DCOS. The question and items are as follows: I chose this option because (i) it is consistent with the principles I have to follow (ii) I have a moral duty to behave that way (iii) some behaviours are definitely right or wrong, irrespective of the consequences (iv) the other option is morally forbidden (v) cost-benefit analyses make sense of this topic (vi) this option can be justified by its consequences (vii) the outcomes of the chosen option produce the best net value and (viii) the positive outcomes outweigh the negative consequences.

4.2.3.4 Decision difficulty scale

The decision difficulty scale was developed by Hanselmann and Tanner (2008) and is designed to measure various types of perceived difficulty associated with a decision including decision ambivalence, readiness to decide, certainty with regard the decision, ease of the

decision, and the need to contemplate further. A full description can be found in the method section of Study 1.

4.2.4. Value Trade-offs

Participants initially evaluated two routine trade-offs involving food and mobile phones, and one taboo trade-off involving human kidneys. Participants were told that the trade-off scenarios were taking place in an imaginary place called Cobbleton. The three scenarios were: (i) Allowing people in Cobbleton to exchange money for food – completed by all treatment groups; (ii) Allowing people in Cobbleton to exchange money for the kidney of a deceased person for the purposes of medical transplantation – completed by TG1 and TG2, or allowing people in Cobbleton to exchange money for the kidney of a living person for the purposes of medical transplantation – completed by TG3 to TG6 and; (iii) Allowing people in Cobbleton to exchange money for a mobile phone – completed by all treatment groups.

Prior to making a moral judgement about trade-off scenarios participants were given the following instructions:

> This section explores your thinking and judgements about what should be permitted to be purchased and sold in markets.
>
> You are required to imagine that you live in a place called Cobbleton and have the power to judge the permissibility and morality of each of the three (3) market transactions you will be shown. Would you allow people to enter into certain types of deals? Do you morally approve or disapprove of those deals? What emotional reactions, if any, do these proposals trigger in you?

4.2.5. Trade-off Scenarios

After making initial moral judgements about the three value trade-offs participants were given information about the shortage of kidneys for medical transplantation in Cobbleton and

a proposed market-based solution. The type of information they received varied according to the type of kidney market, the type of policy condition information, and the strength of the tragic reframing information. In the text that follows differentiating features of the different types of information are described. For the full text of the particular trade-off scenario each treatment group was exposed to, please see Appendix B.

Participants were then asked to make a moral judgement about the proposed market-based solution for Cobbleton. Prior to making the moral judgement participants were given the following information:

> This section requires you to think again about one (1) of the three market transactions from Section 3. For the particular market transaction information, is provided which is designed to assist you in thinking further about the transaction.
>
> After you have considered this information you are asked to re-evaluate the relevant market transaction. As you did in Section 3 you are required to imagine that you have the power to judge the permissibility and morality of the revised market transaction you will be shown. Would you allow people to enter into this type of transaction? Do you morally approve or disapprove of this type of transaction? What emotional reactions, if any, does this transaction trigger in you?
>
> Finally, for the revised market transaction you are asked some questions about your decision.

4.2.5.1 Tragic trade-off reframing strength

In both the high and low conditions participants were told about the size of the kidney transplant waiting list in Cobbleton. Additionally, in the high condition participants were told about the number of people each year who die on the waiting list and become too sick for a transplant. They were also explicitly told whether lives will be saved by the operation of the

proposed market. By contrast, participants in the low condition were not given this additional information and were simply told whether more transplants would occur because of the operation of the market. The information for the size of the waiting list and annual lives lost while on it each year was broadly based on Australian data (ANZOD, 2014).

4.2.5.2 Type of kidney market

There were two types of kidney markets (i) cadaver; where kidneys from deceased people are exchanged and (ii) live; where kidneys from living people are exchanged.

An example of cadaver kidney market information is that provided to participants in TG1 and is as follows:

> In Cobbleton today, nearly 1,100 people are waiting for a kidney transplant.
>
> Currently, kidneys for medical transplant are donated by people after they have died and by people that are still alive. Live donation is possible because people are born with two kidneys but can lead a normal active life with only one kidney.
>
> According to the Kidney Foundation of Cobbleton under the current system of voluntary donation, the annual number of kidneys donated after death will never match the annual number of people requiring a kidney transplant. Therefore, other systems for increasing the supply of kidneys for medical transplantation need to be considered.
>
> One way of bridging gap between the number of kidneys available and number required for transplant is by increasing the supply of kidneys provided by people after death.
>
> At present in Cobbleton it is illegal to buy and sell kidneys for medical transplant or any other purpose. One way to increase the supply of kidneys is to allow a legal national market for kidneys from deceased people for medical transplantation to operate. In such a market the kidneys of deceased people would be exchanged between sellers and buyers at an agreed market price. Exchanges would be arranged while the seller was alive and completed when

> the seller dies on the condition that the kidney is still suitable for transplantation. The proceeds of the kidney sales would be transferred to the deceased person's estate and distributed according to their wishes.

An example of the live kidney market information is that provided to participants in TG3 and is as follows:

> In Cobbleton today, nearly 1,100 people are waiting for a kidney transplant.
>
> Currently, kidneys for medical transplant are donated by people after they have died and by people that are still alive. Live donation is possible because people are born with two kidneys but can lead a normal active life with only one kidney.
>
> According to the Kidney Foundation of Cobbleton under the current system of voluntary donation, the annual number of kidneys donated after death will never match the annual number of people requiring a kidney transplant. Therefore, other systems for increasing the supply of kidneys for medical transplantation need to be considered.
>
> One way of bridging gap between the number of kidneys available and number required for transplant is by increasing the supply of kidneys provided by living persons.
>
> At present in Cobbleton it is illegal to buy and sell kidneys for medical transplant or any other purpose. One way to increase the supply of kidneys provided by living persons is to allow a legal national market for kidneys for medical transplantation to operate in which kidneys would be exchanged between sellers and buyers at an agreed market price.

4.2.5.3 Policy condition information

The policy condition information was adapted from Sacchi et al. (2014). There were two conditions positive and negative. The positive condition was designed to reframe the taboo trade-off as a tragic trade-off, and in the negative condition the information maintained the trade-off as taboo. Specifically, in the positive condition a panel of economists and public

health experts are commissioned by the Kidney Foundation of Cobbleton to examine the impact of a kidney market on the availability of kidneys for transplant and the panel finds that the operation of the market would increase the number of kidneys available for medical transplant. The positive effect of the market on the availability of kidneys is based on arguments put forward by Arrow (1972). In the negative condition, the panel finds that the operation of a kidney market leaves the number of kidneys available for medical transplant unchanged because the increase in availability from the operation of the market is offset by a decline in altruistic donation. The negative effect of the market on altruistic organ donation is based on a modified version of the argument put forward by Titmuss (1971). Titmuss had argued that altruistic donation will be driven out by market supply because the act of donation is corrupted by assigning a monetary value to what is donated. In this study the argument put forward is that those who would have previously donated now decide to sell, leaving organ availability unchanged. An example of the positive policy condition information given to TG1 is as follows:

> The Kidney Foundation of Cobbleton commissioned a study by a team of economists and public health experts to examine the impact of the proposed national legal market for kidneys from deceased people on the number of kidneys available for medical transplants. The study has just been released and its conclusion is that because of the financial incentives to supply provided by the market, many people who previously would not donate a kidney will now sell one, and the total number of kidneys supplied by deceased people for transplantation will increase, resulting in hundreds of additional transplants over the next 10 years.

By contrast participants in TG2 were exposed to the negative condition:

> The Kidney Foundation of Cobbleton commissioned a study by a team of economists and public health experts to examine the impact of the proposed national legal market for live

kidneys on the number of kidneys available for medical transplants. The study has just been released and its conclusion is that because of the financial incentives to supply provided by the market, many people who previously would have donated a kidney will now sell one, leaving the total number of kidneys supplied by deceased people for transplantation each year unchanged.

4.2.6. Apparatus

Participants completed the experiments online using the survey provider Qualtrics and it was possible for them to access the survey using a variety of internet compatible devices including, personal computers, laptops, tablets, and mobile phones.

4.2.7. Procedure:

Participants responded to a request by Qualtrics to participate in a survey and were sent a link to the survey. They were asked if they were currently enrolled at an Australian university and if they answered "no" they were taken to the end of the survey and thanked but not allowed to participate further. If they answered "yes" they continued with the survey and were asked to read an information and consent page and told that if they clicked on the "next" button they were providing consent. The information and consent form informed participants that the study had been approved by the Macquarie University Ethics Review Committee for Human Research and provided contact information about how they could make a complaint should they wish. There were four sections to the survey. Section 1 required participants to complete the sacred value measure for three different markets; food, body organs and mobile phones. In Section 2 participants completed a demographic questionnaire that gathered information on gender, age, educational attainment, field of study at university, marital status and religious affiliation. Participants in Section 3 made moral judgements about three value trade-offs; one routine trade-off, then a taboo trade-off, and then another routine trade-off. The two routine trade-offs involved the exchange of money for food, and mobile phones and

the taboo trade-off varied depending on the type of kidney market participants would be exposed to in Section 4. If they were going to be exposed to a market for kidneys from deceased people in Section 4, they were asked about the exchange of money for a kidney from a deceased person. If they were going to be asked about markets for kidneys from living people, then they were asked about the exchange of money for a kidney from a living person. Section 4 required participants to make a moral judgement about a taboo trade-off, either a live or cadaver kidney market, which had been either re-framed as a tragic trade-off or left as a taboo trade-off. Following that participants completed the DCOS scale and the decision difficulty scale. It should be noted that once participants had made a moral judgement and clicked the "next" button it was not possible for them to go back and revise their judgement.

4.3. Results

4.3.1. Manipulation Checks

4.3.1.1 Validity and effectiveness of the policy condition information

If the policy information condition manipulation was effectively understood by participants it was expected that (i) participant's ratings of the validity of the findings of the study commissioned by the Kidney Foundation of Cobbleton would be significantly greater than the neutral value of 4, irrespective of whether they were exposed to the positive policy condition or the negative policy condition, and (ii) participants in the positive condition would rate the effectiveness of the proposed kidney market in increasing the supply of kidneys for medical transplant more highly than those in the negative condition. Both these expectations were confirmed. A one sample t-test was used to examine participant validity ratings and it was found they were significantly greater than 4 in both the positive policy condition (M = 4.87, SD = 1.18), $t(148) = 9.06$, $p < .0005$, $d = .73$, and the negative policy condition (M = 4.58, SD = 1.19), $t(151) = 6.01$, $p < .0005$, $d = .49$. In addition, effectiveness was significantly

higher in the positive condition (M = 5.12, SD = 1.23) than in the negative condition (M = 4.48, SD = 1.33), $t(299) = 4.332$, $p < .0005$, $d = .50$.

4.3.1.2. Manipulation checks for routine and tragic trade-offs

Following Baron and Spranca (1997) and Ritov and Baron (1999) participants were judged to have endorsed a sacred value about a proposed market if they chose option 3, and not endorsed a sacred value if they endorsed option 1 or 2. Two of the markets, food and mobile phones involved routine trade-offs, while the market for body organs is a taboo trade-off. Consequently, we would expect participants to exhibit a similar pattern of sacred value endorsement for the markets involving food and mobile phone, and a dissimilar pattern for the market for body organs. In other words, it was expected that there would be a significant positive correlation between sacred value judgements for the food and mobile phone markets, but no significant correlation between these judgements for either the food and body organ market, or the mobile phone and body organ market. These expectations were confirmed with 97% of participants not endorsing a sacred value for either food or mobile phones, and 3% endorsing a sacred value. By contrast, 75% did not endorse a sacred value for body organ market and 25% did. Interestingly, the distribution of responses for all three options on the sacred value measure for body organ markets was: 28% had no problem with such markets, 25% objected to such markets, and 48% were willing to allow such markets if the benefits were great enough. This last group is of particular interest because it revealed that almost half the sample are likely to be receptive to reframing information. A significant positive correlation was found between food and mobile phone markets, $r(299) = .33$, $p < .0005$. In addition, the correlation between food and body organs and between mobile phones and food was non-significant, respectively, $r(299) = .01$, $p = .801$ and $r(299) = .02$, $p = .732$. These results along with the reported descriptive statistics functioned as a manipulation check on our

classification of kidney transactions as taboo trade-offs, and the food and mobile phone transactions as routine trade-offs.

4.3.1.3. Manipulation checks for reframing information

A reliability analysis was conducted on the decision difficulty items to test the internal reliability of the scale and a Cronbach's $\alpha = .78$ was found that is above the $\alpha = .70$ value recommended for research purchase purposes (Leech, Barrett and Morgan, 2008). Decision difficulty scores were used to check if the policy condition information, had reframed the taboo transaction as a tragic trade-off in the case of positive policy information or left the taboo transaction as a taboo trade-off in the negative policy condition. If the policy condition manipulation had been effective, it was expected, following Hanselmann and Tanner (2008) who found tragic trade-offs had significantly higher decision difficulty scores than taboo trade-offs, that mean decision difficulty scores would be higher for the positive policy condition than the negative policy condition. This expectation was not confirmed, with no statistically significant difference, $t(299) = 1.72$, $p = .078$, found between the mean decision difficulty scores for positive policy condition ($M = 3.98$, $SD = 1.11$) and the negative policy condition ($M = 4.22$, $SD = 1.24$).

4.3.3. Moral Judgements

4.3.3.1. Initial judgements

Prior to trade-off scenario information participants made moral judgements about the moral acceptability of permitting transactions involving food, mobile phones, and kidneys in an imaginary place called Cobbleton. Consistent with Hypothesis 1, moral acceptability scores for food ($M = 5.94$, $SD = 1.32$) were significantly higher than for kidneys ($M = 3.88$, $SD = 1.72$), $t(300) = 17.10$, $p < .0005$, $d = 1.35$ (large effect size). Also consistent with Hypothesis 1, a statistically significant difference was also found between kidneys and mobile phones ($M = 6.02$, $SD = 1.33$), $t(300) = 17.96$, $p < .0005$ d = 1.4 (large effect size). By

contrast between food and mobile phones no statistically significant difference was found, $t(300) = 1.52$, $p = .130$. Moral acceptability scores for routine trade-offs and taboo trade-offs are reported in Table 8.

Examining if sacred value endorsement had any impact on moral acceptability scores it was found that for those participants that had endorsed the sacred value prohibiting a market for body organs, moral acceptability scores were significantly lower ($M = 2.57$, $SD = 1.60$) than those who did not endorse the sacred value option ($M = 4.31$, $SD = 1.39$), $t(299) = 8.37$, $p < .0005$, $d = 1.16$ (large effect size). Interestingly, for participants who did not endorse the sacred value, options (a) and (b) on the sacred value measure, there was still a significant difference between moral acceptability scores for transactions involving kidneys and food, $t(226) = 12.78$, $p < .0005$, $d = 1.02$ (large effect size), and kidneys and mobile phones, $t(226) = 13.05$, $p < .0005$, $d = 1.09$ (large effect size).

Moral judgements about kidney markets varied significantly with the type of market. In accordance with Hypothesis 2 moral acceptability scores for exchanges of money for kidneys from deceased people ($M = 4.36$, $SD = 1.74$) were significantly more acceptable than exchanges of money for kidneys from living people ($M = 3.64$, $SD = 1.67$), $t(299) = 3.47$, $p <.0005$, $d = .42$ (small to medium effect size).

It is important to note that despite the higher mean moral acceptability score recorded for those participants asked about deceased kidney exchanges, the same pattern of relationships was found between kidney, food and mobile phone exchanges. In particular, no significant difference was found between moral acceptability scores for food and mobile phones, $t(98) = 1.44$, $p = .152$. In addition, significant differences were again found when comparing moral acceptability of food or mobile phone exchanges, to exchanges of money for a kidney from a deceased person, $t(98) = 6.98$, $p < .0005$, $d = .91$ (large effect size) and $t(98) = 7.65$, $p < .0005$, $d = 1.02$ (large effect size), respectively.

In order to facilitate a comparison with other research on this topic that has used a yes/no response scale when measuring moral acceptability (Elias, Lacetera & Macis, 2015; Tetlock, 2000), responses to the moral acceptability question for kidney transactions were recoded as categorical variables. To elaborate, recall that responses were recorded on a 7-point scale where 1 corresponded to *completely unacceptable*, 7 corresponded to *completely acceptable* and the midpoint of 4 was labelled *neutral*. Participants who chose options 1-3 were classified as disapproving of the operation of kidney markets in Cobbleton. Participants who chose option 4 were classified as neither disapproving nor approving of kidney markets, and those who chose options 5-7 were classified as approving of kidney markets in Cobbleton. Recoding strategies that convert scale variables into categorical variables are statistically acceptable and commonly used, see for example the body-mass index (Cole, Flegal, Nicholls and Jackson (2007) or the Beck Depression Inventory (Beck, Steer & Brown, 1996). For live kidney markets 44% disapproved and 31% approved. By contrast, for cadaver kidney markets, 27% disapproved and 31% approved and these differences were significant, χ^2 (2, N = 301) = 8.02, p = .018, Φ = .16.

4.3.3.2 The impact of policy condition information, market type, and tragic trade-off reframing

To examine the effect of policy condition information, market type, and tragic trade-off reframing on moral acceptability judgements about the operation of kidney markets in Cobbleton, a repeated measures analysis was performed. The analysis involved one within-subjects factor, time, measuring moral acceptability scores before and after exposure to policy information. There were three between-subjects factors; (i) policy condition with two levels, positive and negative, (ii) market type with two levels live and cadaver, and (iii) tragic trade-off reframing with two levels, weak and strong. The analysis showed no significant main effect for tragic trade-off reframing, F(1. 295) = .21, p = .648, nor any significant interaction

with policy condition *WL* = .97, *F*(1. 295) = .89, *p* = .347, so Hypothesis 4 was not confirmed. Consequently, a new analysis was run with only two between subjects – policy condition and market type. A significant main effect for time was obtained, *WL* = .93, *F*(1, 297) = 22.56, *p*< .0005, partial η^2 = .07 with moral acceptability being significantly higher after (*M* = 4.45, *SD* = 1.66) exposure to policy information than before (*M* = 3.88, *SD* = 1.72). A significant interaction was found between time and policy condition, *WL* = .97, *F*(1, 297) = 7.16, *p* = .008, partial η^2 = .02. Consistent with Hypothesis 3 an examination of means, represented in Figure 1, indicated that this was likely to be driven by the impact of positive policy information, resulting in a large increase in moral acceptability after (*M* = 4.73, *SD* = 1.62) exposure compared to before (*M* = 3.91, *SD* = 1.67). By contrast, the impact of negative policy information on before (*M* = 3.86. *SD* = 1.77) and after (*M* = 4.18, *SD* = 1.65) scores was small.

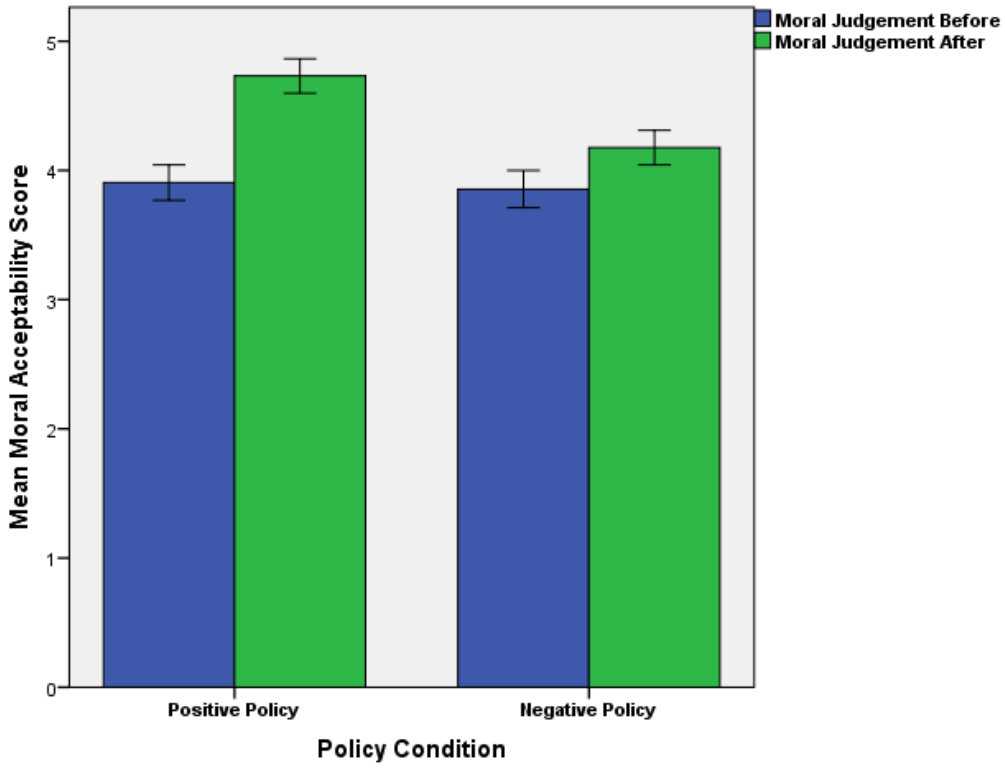

Figure 2.

The impact of policy condition information on moral acceptability scores of kidney markets.

Note: The error bars represent +/- 1 SE.

Moral acceptability scores after exposure to policy information were recoded using the same formula as that used to recode scores before exposure to policy information. Approval for kidney markets was only 35% before exposure to policy information, and rose to 51% after exposure, an increase of 16 percentage points or an increase of 45% from the baseline initial judgement. These changes are statistically significant, χ^2 (4, N = 301) = 68.87, p < .0005, Φ = .34.

A significant interaction was found between time and market type, WL = .98, F(1, 297) = 7.39, p = .007, partial η^2 = .02. However, no significant interaction was found between time, policy condition, and market type, WL = .99, F(1, 297) = .30, p = .587. An examination of the estimated means, represented in Figure 2, showed that this significant effect was likely to be driven by a rise in moral acceptability for live kidney markets, for which there was a much larger increase (before M = 3.63, SD = 1.61 and after M = 4.32, SD = 1.61) than for cadaver kidney markets where the increase was minimal (before M = 4.36, SD = 1.71 and after M = 4.57, SD = 1.60).

Table 8

Moral Acceptability Scores

	Routine Trade-offs		Taboo Trade-offs					
			Before PCI			After PCI		
Moral[a] Acceptability	Food	Mobile Phone	Live Kidney	Cadaver Kidney	All	Live Kidney	Cadaver Kidney	All
Mean	5.94	6.02	3.64	4.36	3.88	4.40	4.57	4.45
Std. Dev.	1.32	1.33	1.67	1.74	1.72	1.69	1.60	1.66

[a] n = 301, PCI represents policy condition information.

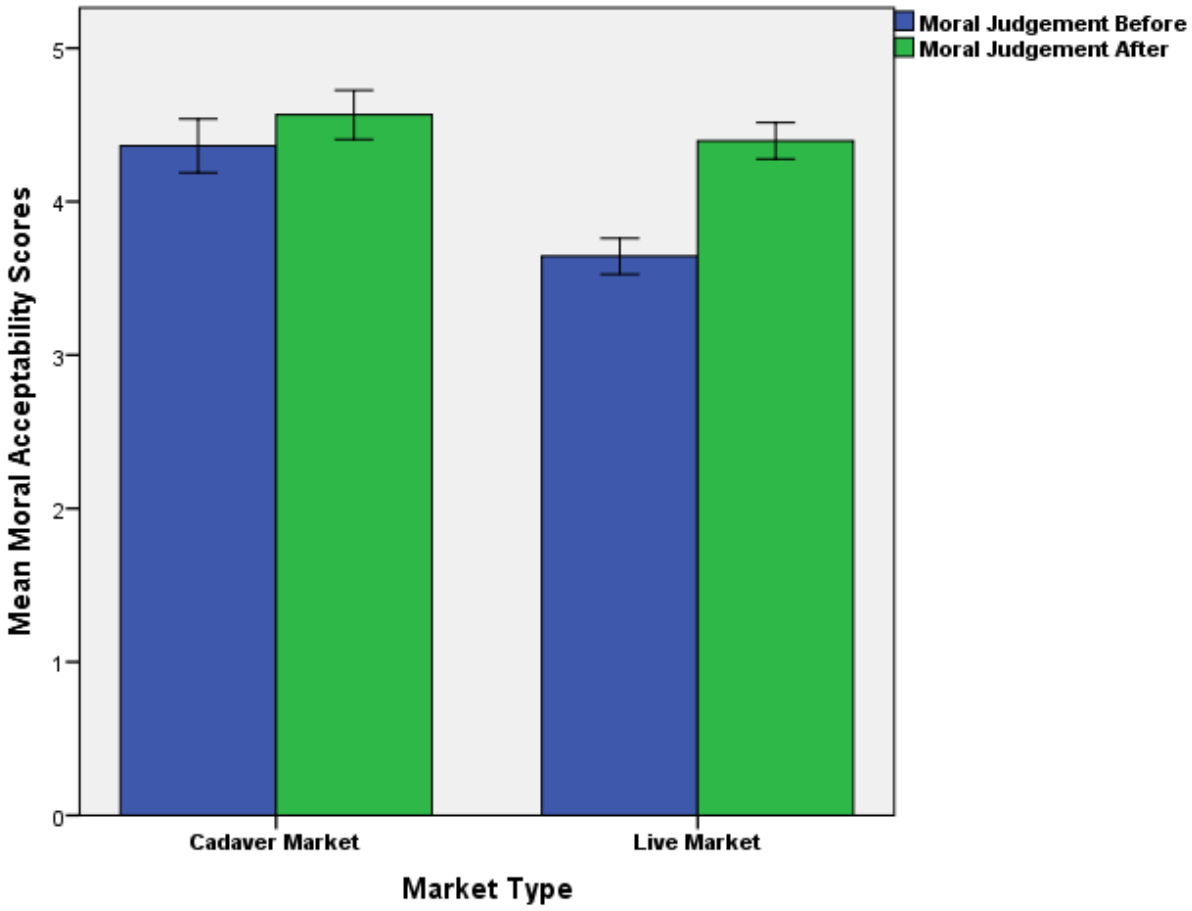

Figure 3.

The impact of policy condition information on the moral acceptability scores of different types of kidney markets.

Note: The error bars represent +/- 1 SE.

4.3.3.3. The impact of sacred values

On the basis of the effect of sacred value endorsement on moral judgements about kidney exchanges before exposure to policy condition information, further analysis was undertaken to explore whether sacred value endorsement had an effect after exposure to policy condition information. A 2x2 mixed model ANOVA was used to investigate the impact of sacred values on judgements of moral acceptability. In the positive policy condition a significant main effect for time was found, $WL = .76$, $F(1, 147) = 47.01$, $p < .0005$, partial $\eta^2 = .24$, and a significant interaction was found for time and sacred value endorsement, $WL =$

.96, $F(1, 147) = 6.17$, $p = .014$, partial $\eta^2 = .04$. An inspection of the estimated marginal means revealed that participants who had endorsed the sacred value reported an increase in moral acceptability scores – before, $M = 2.72$, $SD = 1.49$ and after, $M = 4.08$, $SD = 1.63$ – twice as large as those who had not endorsed the sacred value – before, $M = 4.33$, SD 1.53 and after, $M = 4.96$, $SD = 1.56$. The responses are also represented in Figure 3. In the negative policy condition, a non-significant interaction was found between time and sacred value endorsement, $WL = .98$, $F(1,150) = 2.71$, $p = .102$.

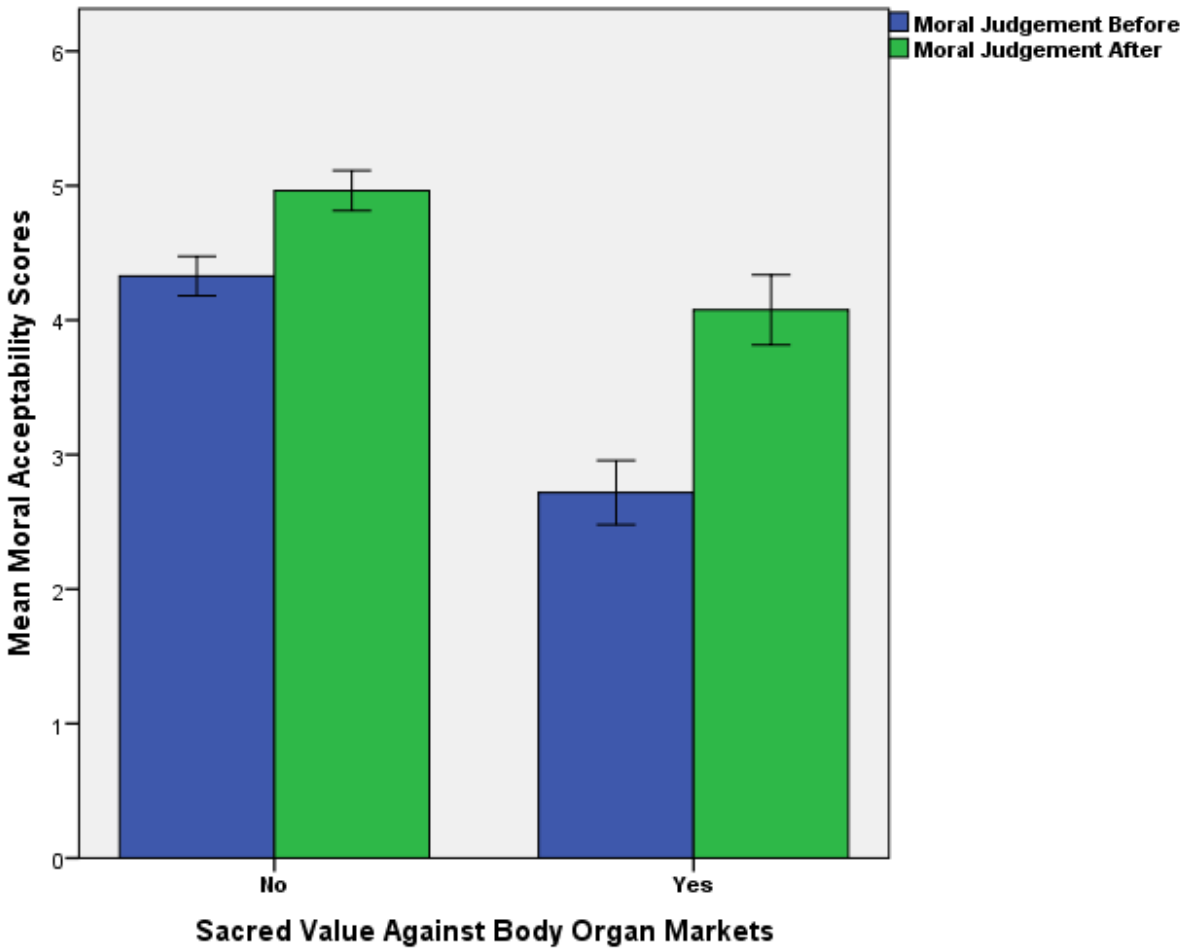

Figure 4.

The impact of policy condition information on the moral acceptability scores of kidney markets depending on whether the sacred value proscribing body organ markets had been endorsed or not.

Note: The error bars represent +/- 1 SE.

4.3.4. Deontological-Consequentialist Orientation Scale

A factor analysis was carried out and based on previous research (Sacchi et al., 2014; Tanner, Medin & Iliev, 2008) a two factor solution was sought. Initial results revealed that the data was suitable for factor analysis, with the Determinant of the correlation matrix equal to .154 above the threshold value of .00001 ruling out multicollinearity, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy equal to .65 above the threshold value of .6 and Bartlett's test of sphericity non-significant, $p < .0005$ indicating factorability. A principal axis factoring analysis was conducted using varimax rotation. The first two factors had eigenvalues equal to 2.53 and 1.81 that accounted for 31.68% and 22.61% of the variance respectively, and cumulatively 54.29% of the variance to be explained. Each of the factors loaded on four items with factor one made up of the four consequentialist items and factor two comprised of the four deontological items.[2] To test for the internal reliability of the four deontological items Cronbach's α was calculated and found to be .65, which is acceptable for a scale involving a small number of items (Leech, Barrett and Morgan, 2008). A similar analysis was undertaken for the consequentialist items and Cronbach's α was .74 which is also acceptable. On the basis of the reliability analysis and the exploratory factor analysis it was decided to create a mean deontological variable from the four deontological items, and a mean consequentialist variable from the four consequentialist items. These variables were used to test various hypotheses about moral judgements relating to kidney markets. The relevant mean values are reported in Table 9.

[2] It should be noted that the reliability analysis indicated that if the fourth deontological item was deleted there was a small increase in Cronbach's α from .65 to .67. If this item was eliminated from the factor analysis and the solution is not constrained the analysis showed the items loaded on two factors. Factor one is made of the four consequentialist items and factor two is made up of the three deontological items. It was decided that because this is not a psychometric thesis the constrained two factor solution is reported because this is consistent with Tanner et al. (2008) and Sacchi et al. (2014) and also with the factor analysis performed on the DCOS for Study 3 of this thesis. In addition, the findings were the same irrespective of what solution was adopted.

Consistent with Hypothesis 5a those participants that disapproved of kidney markets following exposure to policy information reported significantly higher mean deontological scores than mean consequentialist scores, $t(83) = 5.72$, $p < .0005$, $d = .90$ (large effect size). Similarly, Hypothesis 5b was confirmed, with those participants that approved of kidney markets after exposure to policy information reporting significantly higher mean consequentialist scores than mean deontological scores, $t(151) = 5.45$, $p < .0005$, $d = .50$ (medium effect size). For both hypotheses the results held, whether or not participants endorsed the sacred value about body organ markets or not.

Further analysis of mean deontological and mean consequentialist scores on the basis of sacred value endorsement, found that participants who endorsed the sacred value proscribing body organ markets were found to have no significant difference between their mean deontological and mean consequentialist scores, $t(74) = 1.29$, $p = .200$. In addition, no significant difference was found between the mean deontological scores and the mean consequentialist scores of those not endorsing a sacred value, $t(227) = 1.49$, $p = .138$. However, in the positive policy condition the mean consequentialist scores were significantly higher for those that did not endorse a sacred value compared to those that did, $t(147) = 2.70$, $p = .008$, $d = .47$.

Table 9

Mean Deontological and Consequentialist Scores

	Positive Policy		Negative Policy		All policy	
	Sacred Value		Sacred Value		Kidney Market	
Deontological	No	Yes	No	Yes	No	Yes
Mean	4.67	4.48	4.55	4.66	4.83	4.69
Std. Dev.	.97	1.00	1.02	1.26	1.08	1.01
Consequentialist						
Mean	4.85	4.33	4.60	4.24	3.88	5.17
Std. Dev.	.98	1.20	.96	1.29	1.05	.86
n	110	39	117	35	84	152

4.3.5. Summary of Results

Manipulation checks showed that the validity and effectiveness of the policy condition information was accepted and understood by participants, and that the classification of trade-offs as routine or taboo, on the basis of their association with sacred values, was as designed. However, a further manipulation check on whether the reframing strategies within the policy condition were effective showed that the expected difference in decision difficulty scores was not found. Hypothesis 1 was confirmed by the finding that before exposure to policy condition information, moral acceptability scores for either of the routine trade-offs were significantly higher than the moral acceptability score of the taboo trade-off. In addition, it was found that sacred value endorsement impacted on moral acceptability scores, with those participants who endorsed a sacred value proscribing body organ markets reporting significantly lower acceptability scores than those who did not endorse the sacred value. Cadaver kidney markets were rated as significantly more morally acceptable than live kidney markets before exposure to policy condition information, which was consistent with Hypothesis 2. Consistent with Hypothesis 3 it was found that exposure to policy information caused a significant increase in the moral acceptability of kidney markets and this increase was driven primarily by participants exposed to positive policy information. Furthermore, participants that endorsed a sacred value proscribing body organ markets reported an increase in moral acceptability scores twice as large as those participants who did not endorse such a sacred value. The tragic trade-off strength manipulation did not produce a significant effect on moral acceptability scores, and thus Hypothesis 4 was not confirmed. Hypotheses 5a and 5b were confirmed, with those participants that disapproved of the proposed kidney markets recording mean deontological scores that were significantly higher than their mean consequentialist scores. For those that approved of the proposed kidney market, significantly higher mean consequentialist scores than mean deontological scores were found. Further analysis revealed that differences between, the mean deontological and mean consequentialist

scores of those who did and did not endorse the sacred value, were not found. However, in the positive policy condition a significant positive difference in mean consequentialist scores was found between those that did not and those that did endorse the sacred value proscribing body organ markets.

4.4. Discussion

4.4.1 Main Findings

The study found that using policy information to rhetorically reframe a taboo trade-off to be a tragic trade-off resulted in a significant increase in the moral acceptability of the taboo trade-off. This result indicated a degree of flexibility in boundary between the non-market and market domains not found in Study 1. Specifically, the study found that the moral acceptability of kidney markets increased significantly following exposure to positive policy information that framed kidney markets as a solution to a shortage of kidneys required for medical transplantation. Interestingly, the largest increase in moral acceptability was reported for those participants that had initially endorsed the sacred value proscribing body organ markets. Importantly, when comparing the results of Study 1 and Study 2, it should be considered that different measures of the dependent variable, moral judgement, were used. In Study 1, moral judgement was measured using moral outrage scores, whereas, in Study 2 moral acceptability scores were used. In addition, the most significant difference between Study 1 and Study 2 was that the latter used more detailed policy information. Consequently, it can be argued that these results show how context sensitive the influence of sacred values is on moral judgements.

4.4.2. Closed-world Assumptions

The results concerning the manipulation checks indicated that participants in both policy conditions believed the findings of the study commissioned by the Kidney Foundation of Cobbleton were valid. In addition, the significant difference in effectiveness ratings

between participants in the positive policy condition and those in the negative condition indicated that the policy manipulations were correctly understood by participants and this finding is consistent with Sacchi et al., (2014) who used a similar manipulation check. Taken together these results provide grounds for believing that differences in moral judgements between the policy conditions were due to the different policy information. Furthermore, the results also address, to some degree, the issue of closed-world assumptions in moral judgement experiments raised by Bennis et al. (2010). While imaginative elaboration of the policy manipulation information by participants cannot be completely ruled out, the manipulation checks suggested that at the very least participants have on average correctly understood the policy scenarios at face value, and have incorporated the information as designed when forming their moral judgements.

4.4.3. The Decision Difficulty Scale

Decision difficulty scores functioned as a manipulation check on the effectiveness of the reframing strategies contained within the policy condition information. The absence of any significant differences in decision difficulty scores between those in the positive and negative policy conditions suggested that the reframing information may not have been effective. This was possibly due to the detailed nature of the stimulus material. However, Hanselmann and Tanner (2008) also used quite detailed stimulus material and found significant differences using the decision difficulty scale. In addition, the scale produced important differences in Study 1. However, the finding even in the negative policy condition of an increase in moral acceptability scores is suggestive that the waiting list information, common to both conditions, may have made it more difficult for those in the negative condition to decide. By contrast, in the positive condition participants were not simply told about the waiting list for kidney transplants, they were also informed about the lives lost on the waiting list annually and there would be an increase kidneys available for transplant.

Consequently, this may have made the tragic trade-off more lopsided and thus a decision easier to make. This, however, is conjecture and it is not possible to go further towards an explanation on the basis of the information available.

4.4.4. Sacred Values

The results of the sacred value task adopted from (Ritov & Baron, 1999) showed that value trade-offs could be distinguished on the basis of their association with sacred values. Furthermore, they showedshowed that only a substantial minority of participants (25%) endorsed the sacred value proscribing body organ markets.

4.4.5. Initial Moral Judgements and Sacred Values

The initial moral judgements indicated that for the sample as a whole taboo trade-offs had significantly lower moral acceptability than routine trade-offs. These results are consistent with existing research, including Study 1, that found significantly higher levels of moral disapproval, in the form of moral outrage or negative emotion, for taboo trade-offs compared to routine trade-offs (Tetlock, et al. 2000; Baron & Spranca, 1997; Hanselmann & Tanner, 2008 and; Lichtenstein et al., 2007). The fact that different measures of moral disapproval are exhibiting the same pattern of results adds to the robustness of the distinction between routine and taboo trade-offs. Furthermore, the results also demonstrated that moral acceptability scores for taboo trade-offs varied with sacred value endorsement. Specifically, moral acceptability scores were significantly lower for kidney market transactions among participants who endorsed a sacred value proscribing body organ markets than those that did not. This result in particular supports a central contention of Tetlock's SVPM that rejection of taboo trade-offs is based on sacred values (Tetlock, 2002). Of interest was the finding that although participants who did not endorse the sacred value had significantly higher moral acceptability scores than those that did, their scores for kidney transactions were still significantly lower than those they reported for food and mobile phones. In other words, these

participants did not judge kidney markets as a routine trade-off, they existed between a routine transaction and a taboo transaction.

Moral acceptability scores were significantly higher for cadaver kidney markets than for live kidney markets and this is consistent with arguments put forward by Satz (2010) and Kanbur (2004) that problems of weak agency, vulnerability and extreme outcomes combine to make markets for kidneys from living people less acceptable. Interestingly, these results are not consistent with those of Leider and Roth (2010) who reported that cadaver and live kidney markets were as morally acceptable as each other in a survey of the adult population in the U.S. Furthermore, the moral unacceptability of cadaver markets in the U.S. was the same as what was found in this study (27%). By contrast, the moral unacceptability of live kidney markets in U.S. (23%) was much lower than was found for the current study. (44%). This is suggestive of potentially significant cross-cultural and/or demographic differences due to the different populations surveyed by the two studies.

4.4.6. The Impact of Policy Condition Information and Sacred Values

A central issue this study explored was to what extent are moral judgements about taboo trade-offs revised after exposure to policy information. The results showed that exposure to policy condition information was associated with a significant increase in moral acceptability scores. Furthermore this increase is likely to have been driven by exposure to positive policy information that was designed to rhetorically reframe the taboo trade-off to be a tragic trade-off and resulted in a much larger increase in moral acceptability than did exposure to negative policy information. Interestingly, moral acceptability scores also increased after exposure to negative policy information that was designed to maintain the trade-off as taboo. However, the increase was less than half of that associated with exposure to positive policy information. In addition, exposure to policy information had a larger impact on increasing the moral acceptability of live kidney markets than it did on cadaver markets.

Of particular interest was the finding that sacred value endorsement was also associated with increasing moral acceptability. Specifically, participants that endorsed a sacred value proscribing body organ markets reported an increase in moral acceptability scores twice as large as those that did not, following exposure to positive policy information.

These results are consistent with the original findings of Tetlock (2000) who found that after exposure to policy revision information a significant minority of participants changed their minds and were willing to trade-off their sacred values. In addition, these results are very different to those reported in Study 1, that showed for the majority of participants no significant change in moral judgements about taboo trade-offs and for a minority of participants an increase in moral unacceptability following exposure to policy revision information. The most likely cause of these quite different results would appear to be the adjustments made to the stimulus material to address issues associated with closed world assumptions and the counting problem.

In a very recent paper, unknown to the author when developing the stimulus materials for Study 2, Elias, Lacetera and Macis (2015) exposed participants to real data for the U.S. about the size of the kidney shortage and transplant waiting times. Participants were also told about different solutions to the shortage, such as cadaver donation, live donation, pairwise kidney exchange as well as information about the likely price of kidneys should they be allowed to be exchanged in markets. Furthermore, the sources for all information supplied to participants were available in footnotes. In other words, participants were exposed to even more sophisticated real world information about the kidney shortage than was used in Study 2. Elias et al. found that participants who were exposed to information about the kidney shortage in the U.S. compared to those who were not, were more likely to approve the introduction of regulated markets allowing monetary payments to live organ suppliers and to the families of deceased organ donors.. In particular, approval was 52% among participants

not exposed to the kidney shortage information compared to 71% among those exposed to the information. This represents a 19 percentage point increase, or about a 37% change from the baseline level of approval. This is broadly consistent with the 45% increase over the baseline reported in this Study. In addition, both these figures are also broadly consistent with the 30% of participants that changed their minds in favour of markets for body organs and adoption rights for babies and children reported in Tetlock (2000).

Another important question is on what basis did participants in the positive policy condition revise their moral judgements? For participants who had not endorsed a sacred value proscribing body organ markets the most likely explanation for the increase in moral acceptability is that these participants based their judgements on consequentialist considerations. In the positive policy condition allowing the market to operate generated increased benefits in the form of more transplants and lives saved. This explanation is supported by the fact that two-thirds of the 75% of participants not endorsing a sacred value for body organs, had endorsed the option that a market for body organs would be acceptable if the benefits it generates are great enough. Moreover, it is further supported by the significantly higher consequentialist orientation scores reported by those that had not endorsed a sacred value compared to those that had. This indicated that consequentialist thinking was more important in the formation of their moral judgement than it was for those that had endorsed the sacred value.

The basis on which participants that had endorsed the sacred value proscribing body organs revised their judgements is less clear. The obvious answer is that they revised their moral judgements because the positive policy information was effective at rhetorically reframing a taboo trade-off to be a tragic trade-off. To elaborate, according to this view, those participants that had endorsed a sacred value that rendered body organ transactions taboo were likely to have been following a deontological rule (Bartels, 2008; Baron & Spranca,

1997, Tanner et al., 2008). The fact that they were willing to revise their initial moral acceptability judgements in a positive direction following exposure to positive policy information could be due to the trade-off becoming tragic. In such a situation participants would experience a clash between a sacred value concerning the commodification of the human body, and one concerning the preservation of life. Based on previous research we would expect this to result in a decrease in moral outrage or negative emotion, and consequently an increase in moral acceptability (Hanselmann & Tanner, 2008; Tetlock et al., 2000). The finding that the moral acceptability scores were significantly higher for those that endorsed the sacred value against body organ markets in the positive policy condition compared to those that endorsed the sacred value in the negative condition is supportive of this interpretation.

A difficulty with this interpretation is that there was no significant difference between deontological orientation scores of those that endorsed a sacred value proscribing body organs markets and those that did not in the positive policy condition. This result indicated that both groups of participants were no different in the degree to which deontological thinking informed their moral judgement. Such a finding is somewhat unexpected because not endorsing the sacred value proscribing body organ markets was taken as endorsing a consequentialist position, and would therefore result in lower deontological orientation scores. However, this approach ignores the possibility that participants may understand consequentialism as a principled position which they have a duty to follow in all cases. A more formal version of this approach is rule utilitarianism that is based on the idea that following the rule over time and in all circumstances results in greater utility than would result if decisions were made on a case-by-case basis (Gandjour & Lauterbach, 2003). If this is the case these participants would score high on both the deontological scale and the consequentialist scale. In fact. this was indeed the case and no significant difference was found between them. This understanding is also consistent with the findings associated with

the positive policy condition. In addition, recent research has found that the traditional approach to understanding consequentialism and deontology that positioned them at opposite ends of the moral reasoning spectrum is not necessarily correct, and they are better thought of as two different types of moral reasoning that many people make use of at the same time when forming a moral judgement (Sacchi et al., 2014; Tanner etal. 2008).

An alternative interpretation is suggested by Baron and Spranca (1997) who argued that sacred values are based on deontological rules. Earlier work by Baron (1994) argued that non-consequentialist decision rules, of which deontological rules are the most prominent example, "arise from overgeneralization of rules that are consistent with consequentialism in a limited set of cases" and these rules are then applied in contexts "detached from their original purposes" (p. 1). Later work by Baron and Leshner (2000) showed that sacred values are "strong opinions, weakly held" (p. 192) and "often yield to challenges" (p. 193). Applying these ideas and findings to the current question suggests that participants in the positive policy condition who endorsed the sacred value could well have revised their endorsement in the light of the large negative consequences of not allowing the market for kidneys – deaths on waiting lists – and the large benefits of allowing the market – the increased number of medical transplants. This interpretation is also supported by the significant positive difference found between the moral acceptability scores of those that endorsed the sacred value in the positive and negative policy condition. However, if this interpretation is correct the consequentialist orientation scores should have been significantly higher for those that endorsed the sacred value in the positive policy condition than those in the negative condition who also endorsed the sacred value, and such a difference was not found. Therefore, the most likely explanation for why people who had endorsed a sacred value against body organ markets, revised their moral acceptability scores in an upward direction is because the positive policy information effectively reframed the taboo trade-off into a tragic trade-off.

4.4.7. The Deontological and Consequentialist Orientation Scale

Some of the findings associated with this scale have already been discussed in the preceding section but two further results merit discussion. Of particular interest were the findings that participants who disapproved of kidney markets reported higher deontological scores than consequentialist scores and those that approved of kidney markets reported higher consequentialist scores than deontological scores. Furthermore, these relationships held irrespective of whether participants had initially endorsed the sacred value proscribing body organ markets or not. In other words, if participants disapproved of the proposed kidney market in Cobbleton, they did so mainly for deontological reasons, and if they approved of the market, they did so for consequentialist reasons. It can be argued that these findings suggest that the impact of initially endorsing or not endorsing a sacred value can be put aside when faced by a specific decision context. This suggestion echoes the thoughts of Lichenstein et al. (2007) who argued at the end of their study of taboo trade-offs that "[E]ndorsements of general statements are just that: broad expressions of moral or ethical belief, lacking predictive ability for specific decisions" (p. 183).

4.5. Conclusion

The study examined impact of policy revision information on moral acceptability scores that reframed a taboo trade-off to be a tragic trade-off compared to information that maintained the taboo status of the trade-off. Overall, exposure to policy information was associated with an increase in moral acceptability scores, however, the increase was greatest following exposure to positive policy information. When responses were recoded it was found that there was 45% increase in the number of participants approving of kidney markets after exposure to the policy condition information. Interestingly, a sacred value proscribing body organ markets was only endorsed by minority of participants. Importantly however, sacred values also played a significant and at times unexpected role in judgements about the moral

acceptability of kidney markets. Initially endorsing a sacred value proscribing body organ markets had the expected effect of depressing moral acceptability scores. However, following exposure to policy condition information, particularly positive information, moral acceptability scores unexpectedly increased by twice as much for participants that did endorse the sacred value than it did for those that did not. Further analysis of the basis on which those that endorsed the sacred value against body organ markets increased their moral acceptability scores, indicated it was most likely due to the positive policy information activating another sacred value that created a tragic trade-off for these participants. Therefore, in these circumstances it is more morally acceptable to trade off the sacred value. By contrast, a consequentialist orientation in moral reasoning explained the rise in moral acceptability scores found for those that did not endorse a sacred value in the positive condition. The study also found that prior to exposure to policy information cadaver kidney markets were significantly more acceptable to participants than live kidney markets. However, exposure to policy information was associated with a larger increase in the moral acceptability of live kidney markets than was reported for cadaver markets.

CHAPTER 5

STUDY 3 – TIME AND MORAL JUDGEMENT ABOUT LIVE KIDNEY MARKETS

5.1 Introduction

Recent developments in the field of moral psychology have turned the relationship between moral judgement and moral reasoning on its head. Two prominent leaders of the new approach have been Haidt (2001, 2007 & 2012), who proposed the social intuitionist model (SIM) and Greene (2008 & 2013) who drew upon the dual-systems theory of information processing (Kahneman, 2011) to develop a dual systems approach to moral judgement and moral reasoning. The traditional approach, as exemplified in the work of Kohlberg (1969), who built on the work of Piaget (1932 [1965]), was based on the idea that moral reasoning typically preceded moral judgement. By contrast, the new approach has reversed the order and proposed that in most instances moral judgement precedes moral reasoning.

According to Greene and Haidt (2002) most moral judgements are based on moral intuitions that are driven by a process that is fast, automatic and typically affect-laden. In Greene's (2008 & 2013) dual-process model, system one (S1) is responsible for this type of processing. Haidt (2001) argued that for most people, in most instances, moral reasoning is a process that follows the initial moral judgement and is oriented to rationalizing and defending that judgement, rather than a process that reflects upon and assesses the initial judgement. Greene (2008 & 2013; Paxton & Greene, 2010) posited that moral reasoning is driven by system two (S2) and is characterised by a slower and more cognitively controlled form of processing. In comparison to Haidt (2001), Paxton and Greene (2010) argued for a more reflective role for moral reasoning and also proposed that there is a tendency to achieve consistency between moral judgements and moral commitments. In support of Baron and Spranca (1997) who argued that protected values are associated with deontological rules,

Greene and colleagues (Greene et al., 2008) found that S1 processing tended to be non-utilitarian or deontological, while S2 processing was based more on consequentialist, or more specifically, utilitarian principles. It is important to note, that in both Haidt's (2001) SIM and Greene's dual systems approach (2008 & 2013; Paxton & Greene, 2010), moral judgements can follow moral reasoning. From the perspective of Greene's account this means moral judgements can be the product of S1, when they reflect intuitive processes, or the product of S2 when they are primarily based on controlled cognitive reasoning processes.

Taken together, the work of Haidt and Greene suggested a way of explaining the trade-off resistance of sacred values found in Study 1. When participants were exposed to policy revision information in Study 1, moral reasoning according to Haidt would have been deployed to primarily rationalize and support the original moral judgement. Similarly according to Greene, moral reasoning while judging the worth of the new information would have also been seeking to achieve consistency with the initial judgement and pre-existing moral commitments. Both these views predicted that the revision of initial moral judgements would prove difficult. To explore this interpretation further, participants in Experiment 1 of Study 3 completed a moral reasoning task in order to check for consistency between their moral reasoning and moral judgement. Following Haidt and Greene it was expected that the more time participants had to judge and reason, the more consistent would be the relationship between moral reasoning and moral judgement.

Recent research by Suter and Hertwig (2011) on the relationship between time and moral judgement found that when participants were put under time pressure and had only 8 seconds to make a moral judgement compared to when they were required to wait 3 minutes, resulted in a significantly greater proportion of deontological judgements or a significantly smaller proportion of consequentialist judgements. Suter and Hertwig (2011) also reported that this pattern of results only held for personal high-conflict moral dilemmas. In addition,

Paxton, Ungar, and Greene (2011) found that delaying participants for 2 minutes before they could make a moral judgement was associated with a greater proportion of responses approving a one-off incestuous act supported by strong arguments. From the perspective of Greene's model, both these sets of results are based on the time-delay permitting greater S2 processing and because this type of processing is more consequentialist in nature, it canovercome the initial moral intuition. As Suter and Hertwig (2011, p. 458) concluded "consequentialist choices represent a victory over an emotional impulse."

Study 3 consisted of two experiments, and in both time was manipulated following Suter and Hertwig (2011) by having a no-time-delay condition and a time-delay condition. In the no-time-delay condition participants had only 8 seconds to make a moral judgement. In this condition it was assumed S1 processing would dominate and moral judgements would be based on moral intuitions, and these intuitions tended to be based on emotionally-backed deontological rules (Greene et al. 2008). By contrast in the time-delay condition moral judgements were delayed for 3 minutes and it was assumed S2 processing would dominate; which was consequentialist in orientation (Greene et al., 2011).

Study 2 found that before exposure to policy condition information, live kidney markets were significantly less morally acceptable than cadaver kidney markets. However, live kidney markets recorded a much greater increase than cadaver markets in moral acceptability following exposure to policy information. For proponents of market-based solutions to the shortage of kidneys for medical transplant, gaining moral acceptability for live kidney markets is crucial because it is likely that the supply of kidneys from deceased people will never eliminate the shortage of kidneys (Becker & Elias, 2007). Thus, live kidney markets were the focus of Study3.

The first two studies found that the exchange of money for kidneys was a taboo trade-off. In Study 3 this underlying transaction was embedded in information that framed the taboo

trade-off as tragic. Following Tetlock (2003) this framing strategy was understood as rhetorical in the sense that it was designed so that participants would think they were considering a trade-off between two sacred values, saving lives and not treating people as commodities, when in fact the trade-off remained taboo. It remained taboo because the secular side of the trade-off is subsumed within a sacred value, that is, you can only save additional lives if kidney transactions are allowed. So if the trade-off is accepted, and live kidney markets are allowed to operate, part of the non-market realm has been absorbed into the market realm.

Study 3 included a quantity manipulation as well. If moral judgements are based on deontological rules in the no-time-delay condition, then increasing the quantity of suffering that could be prevented by allowing the live kidney market to operate will have no impact on judgements of moral acceptability. However, in the time-delay condition the consequentialist orientation of S2 processing will mean that the quantity manipulation will lead to an increase in the moral acceptability of live kidney markets. Therefore, in order to test how sensitive S2 processing is to the consequences of a trade-off, data for two different imaginary locations called Cobbleton and Creanfford were presented. The data included information on the size of the waiting lists for kidney transplants and the number of people who died or become too sick for a transplant each year while on the waiting list. The data associated with each place was respectively based on the actual data for Australia (ANZOD, 2014) and the United States of America (U.S.) (UNOS, 2014). Furthermore, the data was adjusted, so that the Australian data was approximately one hundred times greater than that for the U.S., while preserving key proportions. Therefore, the data for Cobbleton is based on Australian data and the data for Creanford is based on U.S. data.

Sacred values were assessed in Study 3 using the measure adopted from Ritov and Baron (1999) that was also used in Study 2. An important difference between Study 3 and

Study 2 is that Study 3 asked participants to respond to three different sacred values or moral ideals that are appealed to in the debate about whether monetary payments to providers of live kidneys should be permitted. Specifically, debates among medical practitioners in the United States have identified issues around treating people as commodities as an argument against markets for live kidneys and issues associated with the autonomous rights of individuals to do what they want with their bodies, as well as the pressing need to increase the supply of transplantable kidneys to save more lives, as arguments in favour of live kidney markets (Abecassis et al., 2000; Levine, 2000). Consequently, using the sacred value measure participants were asked about (i) treating people as commodities (ii) interfering with a person's freedom to do what they want with their body, and (iii) allowing a person to die while they are on a waiting list for a medical procedure. In the context of Study 3, this task was designed to function as a manipulation check on whether the information embedded in the trade-off scenarios for Cobbleton and Creanford meant that they were perceived as tragic trade-offs. Therefore, if the majority of participants endorsed all three values as sacred it could be reasonably assumed that the proposal for live kidneys market to operate in Cobbleton or Creanford would be viewed as tragic trade-off.

Study 3 consisted of two experiments. Experiment 1 and Experiment 2 differed from each other in three ways. Firstly, Experiment 1 measured moral acceptability using the same one-item question as Study 2. However, this led to a significant amount of lost data in the no-delay group because participants struggled to record a judgement in the allotted time of 8 seconds. This problem had not presented itself in informal trialling. To address this issue, Experiment 2 was run using a one-item, yes/no question that was used to measure moral judgements about live kidney markets.

Secondly, Experiment 1 consisted of three treatment groups and one control group whereas Experiment 2 consisted only of two groups. The time manipulation was adapted from

Suter & Hertwig (2011) who used a time-pressure group in which participants were required to make a moral judgement within 8 seconds and a no-time-pressure group in which participants had to deliberate about the moral dilemma for 3 minutes before making a moral judgement. They also referred to another condition in their paper but did not report it in detail. The condition was based on Dijksterhuis, Bos, Nordgren, and van Baaren (2006), and involved distracting participants for 3 minutes and then asking them to give an intuitive decision. They found that participants in this condition also made significantly more consequentialist decisions than the 8 second group. They argued this finding was consistent with the idea that unconscious thought, when not under time-pressure, was more consequentialist in nature and thus controlled the effect of the initial deontologically-based moral intuition. In Experiment 1 the three treatment groups were a no time-delay group that required participants to make a moral judgement within 8 seconds, and two time-delay groups that required participants to wait 3 minutes before making a decision. In one group they were directed to deliberate about the moral dilemma and in the other group they were simply asked to wait. The control group involved participants completing a 3 minute distraction task before making a moral judgement. These last two groups were designed to try and replicate, and better understand the third condition based on unconscious thought, which Suter & Hertwig discuss but don't formally report. By comparison, Experiment 2 consisted of two treatment groups that were the same as Suter and Hertwig's two main groups – an 8 second group and a 3 minute deliberation group.

Thirdly, Experiment 1 allowed participants 2 minutes to explain in their own words their moral reasoning about each of the moral judgements. This moral reasoning task is primarily designed to test the consistency between a participant's moral reasoning and their prior moral judgement. Experiment 2 asked participants to complete the deontological and consequentialist orientation scale (DCOS) adopted from Tanner et al. (2008), to explain their

moral reasoning about each judgement. This scale is designed to provide insight into whether moral judgements are based on deontological rules or consequentialist considerations.

5.2. Experiment 1

5.2.1 Hypotheses

The aims of Experiment 1 were to test (i) if manipulating the time impacted on judgements of moral acceptability about live kidney markets (ii) if manipulating quantity of consequences impacted on moral acceptability scores about live kidney markets (iii) for consistency between moral reasoning and moral judgement. The specific hypotheses are outlined below.

Suter and Hertwig (2011) found that participants under no-time-delay made a greater proportion of deontological decisions than did participants who had to deliberate for 3 minutes.

Hypothesis 1: Moral acceptability scores will be lower in the no-time-delay group, compared to moral acceptability scores in the time-delay groups.

Based on Suter and Hertwig (2011) and Greene et al. (2008) participants in the no-time-delay group will be quantity insensitive because moral judgements are based on deontological rules. Whereas participants in the time-delay group will exhibit quantity sensitivity because moral judgements are based on consequentialist considerations.

Hypothesis 2: Moral acceptability scores will be higher in Creanford than in Cobbleton in the time-delay group.

According to Haidt (2001) moral reasoning will primarily seek to rationalize and justify the moral judgement, and according to Greene and colleagues (Paxton & Greene, 2010) moral reasoning will seek to achieve consistency with past judgements and existing moral commitments. Therefore, both these views predict a high level of consistency between

moral reasoning and moral judgement. However, Haidt (2001) also referred to a phenomenon called moral dumbfounding in which people are unable to provide a coherent set of reasons for the moral judgement they have made. Haidt, Bjorklund, and Murphy (2000) argued that this is most likely to occur when strong moral intuitions are responsible for the moral judgement. In terms of the current experiment, participants in the no-time-delay group are assumed to be relying on S1 processing when making moral judgements, and consequently relying on their moral intuitions which increased the likelihood that moral dumbfounding may occur. By contrast, participants in the time-delay group have more time to form a moral judgement and are less likely make a judgement that is based on S1 processing only and therefore instances of moral dumbfounding are less likely to occur. It follows from this that participants in the no-time-delay group, compared to those in the time-delay groups, are more likely to generate reasons for their moral judgements that are inconsistent with those judgements.

> Hypothesis 3: Participants in the time-delay group will exhibit greater consistency between moral judgement and moral reasoning than participants in the no-time-delay group.

5.3 Method

5.3.1. Participants

A total of 146 students from Macquarie University participated in an online study. Students were recruited through announcements made in classes, made on online unit websites and university research noticeboards online and around campus. Students were paid $10 for their participation. Of the sample 85 (58%) were females and 61 (42%) were males and ranged in age from 17 to 43 years with a mean of 21 years. In terms of the highest level of educational attainment 25% of participants had completed a post-secondary school qualification and 75% had completed secondary school. Participants were drawn from a broad

range of disciplines with 34% enrolled in human and natural sciences programs, 14% in arts programs and 53% in a business program. In addition, 45% of participants indicated that they did not have a religious affiliation and 55% did with 38% of the sample identifying as Christian.

5.3.2. Experimental Design

The participants were randomly assigned to one of four groups. The independent variables were time-delay, and quantity sensitivity. The size of the groups was set to have an 80 per cent chance of finding a strong medium effect size (Cohen's d = .6 to .7) with α = .05 (Hanna & Dempster, 2012). Time-delay was a between subjects variable and consisted of four levels, three treatment groups and a control group. Treatment group one (TG1, n = 39) was the no-time-delay group in which participants had only 8 seconds to make a moral judgement, while participants in the remaining groups experienced a time-delay of three minutes before making a moral judgement. Specifically, in treatment group two (TG2, n = 36) participants were told they would have to wait 3 minutes before they could make a moral judgement. By contrast in treatment group three (TG3, n = 37) they were instructed to deliberate for 3 minutes about the moral dilemma before making their moral judgement and in the control group (CG, n – 34) they had to complete a distraction task for three minutes before making a moral judgement. Quantity sensitivity was a within-subjects variable with two levels that differed in terms of human suffering, specifically, the number of people on a waiting list for a kidney transplant and the number that would die or become too sick for a transplant annually. The dependent variables of interest were moral judgement and moral reasoning.

5.3.3. Instruments

5.3.3.1 Sacred value measure

The sacred value measure was developed by Baron and colleagues (Baron & Spranca, 1997; Ritov & Baron, 1999) and has subsequently been used by other researchers (for

example, Bartels, 2008; Bartels & Medin, 2007). The measure is designed to determine whether people hold a sacred or protected value about a particular activity, place, topic or object. Specifically, people are asked to endorse one of three responses that best represents their attitude toward a particular activity, place, topic or object. Study 2 also used this measure and a full description is available in the method section of that study. Participants in the current experiment were asked about three topics: (i) Treating people as commodities; (ii) Interfering with people's freedom to choose what they do with their bodies and; (iii) Allowing someone to die while they are on a waiting list for a medical procedure. In this experiment the sacred value measure functioned primarily as a manipulation check on whether the information embedded in the trade-off scenarios for Cobbleton and Creanford had effectively transformed the trade-off into a tragic trade-off. For example, if the majority of participants endorsed all three values as sacred could be reasonably assumed that the proposal for live kidneys market to operate in Cobbleton or Creanford would be viewed as a tragic trade-off.

5.3.3.2 Moral judgement

Participants were asked to judge the moral acceptability of the trade-off scenarios using a 7-point scale ranging from 1 = *completely unacceptable*, to 4 = *neutral*, to 7 = *completely acceptable*. The same scale was used in Study 2 and used by Paxton, Ungar and Greene (2011) when judging moral acceptability while manipulating time pressure.

5.3.3.3 Moral reasoning

After making a moral judgement participants were given two minutes to write down their moral reasoning about their moral judgement. This task was included to explore the degree of consistency between moral reasoning and moral judgement.

5.3.4. Manipulation Materials

5.3.4.1 Time-delay

Two recent studies by Paxton, Ungar and Greene (2011), Experiment 2, and Suter and Hertwig (2011) have examined the impact of time on moral judgement. This study followed a strategy similar to Suter and Hertwig (2011). Participants were asked to read about an imaginary location called either Cobbleton or Creanford that have a kidney shortage and were asked to consider a legal market where kidneys from living people could be exchanged for money as a solution to the shortage. There were two broad treatment conditions; no-time-delay and time-delay. As described above there was one no-time-delay group (TG1) and three time-delay groups (TG2, TG3 & CG). In TG1 participants had only 8 seconds to make a moral judgement about the moral acceptability of a live kidney market. In TG2 participants were simply instructed that they must wait 3 minutes before they could make a judgement and in TG3 they were instructed to deliberate for 3 minutes after which time they could make a judgement. Finally, in the CG participants completed a multiple choice task for three minutes after which they were asked to make a judgement.

5.3.4.2 Trade-off scenarios

The trade-off scenarios used in the experiment related to the permissibility of live kidney markets operating in two imaginary locations called Cobbleton and Creanford. The numerical data for each location is broadly based on data for kidney transplant waiting lists for Australia (ANZOD, 2014) and the United States of America respectively in 2014 (OPTN, 2014). The data was adjusted to ensure that the numbers of those annually dying or becoming too sick for a kidney transplant were proportionally the same for each location. In broad terms the size of the kidney shortage in Creanford is 100 times greater than in Cobbleton and exposing participants to this change in quantity is designed to test the strength of participant's sensitivity to consequences.

The trade-off scenarios were designed to limit or constrain participants' imaginative elaboration of the moral dilemma and thus close the world of participants (Bennis et al., 2010). For example, they were told that such trade-offs were currently illegal but would become legal if the proposed market was accepted and the market would operate nationally rather than internationally. In addition, as already discussed actual figures were provided rather than leaving it participants to imagine the scale of the kidney shortage.

Prior to exposure to the trade-off scenarios participants were told that this part of the survey explores peoples' thinking and judgements about what should be permitted to be purchased and sold in markets. Specifically, they were told the following:

> This section explores peoples' thinking and judgements about what should be permitted to be purchased and sold in markets.
>
> You will be asked to read two (2) scenarios. After you have finished reading a scenario, click the "next" button at the bottom of the page. If you have not clicked the "next" button after 90 seconds you will be automatically moved to the next page. During this section of the experiment it is not possible to go back to a page once you have clicked the "next" button or have been automatically forwarded to the next page.

The text of the two trade-off dilemmas about Cobbleton and Creanford that each participant was exposed are provided below:

> Cobbleton
>
> In Cobbleton today, nearly 1,100 people are waiting for a kidney transplant. Furthermore, about 52 people per year die while on the waiting list and another 16 become too sick to be considered for a transplant.

Currently, kidneys for medical transplant are donated by people after they have died and by people that are still alive. Live donation is possible because people are born with two kidneys but can lead a normal active life with only one kidney.

According to the Kidney Foundation in Cobbleton the annual number of kidneys donated after death will never match the annual number of people requiring a kidney transplant. One way of bridging gap between the number of kidneys available and number required for transplant is by increasing the supply of kidneys provided by living persons.

At present in Cobbleton it is illegal to buy and sell kidneys for medical transplant or any other purpose. One way to increase the supply of kidneys provided by living persons is to allow a legal national market for kidneys for medical transplantation to operate in which kidneys would be exchanged between sellers and buyers at an agreed market price. The subsequent increase in the supply of kidneys by living persons will save the lives of hundreds of people in Cobbleton over the next 10 years.

Creanford:

In Creanford today, nearly 105,000 people are waiting for a kidney transplant. Furthermore, about 5,000 people per year die while on the waiting list and another 1,500 become too sick to be considered for a transplant.

Currently, kidneys for medical transplant are donated by people after they have died and by people that are still alive. Live donation is possible because people are born with two kidneys but can lead a normal active life with only one kidney.

According to the Kidney Foundation in Creanford the annual number of kidneys donated after death will never match the annual number of people requiring a kidney

transplant. Therefore, only by increasing the supply of kidneys provided by living persons can the difference between the number of kidneys available and the number needed be bridged.

At present in Creanford it is illegal to buy and sell kidneys for medical transplant or any other purpose. One way to increase the supply of kidneys provided by living persons is to allow a legal national market for kidneys for medical transplantation to operate in which kidneys would be exchanged between sellers and buyers at an agreed market price. The subsequent increase in the supply of kidneys by living persons will save the lives of tens of thousands of people in Creanford over the next 10 years.

5.3.4.3 Distraction task

Participants in the control group were given a maximum of 3 minutes to answer 15 multiple choice questions before being asked to make a judgement about the moral acceptability of allowing a market for live kidneys to operate in Cobbleton or Creanford. After 3 minutes had elapsed if they had not completed the distraction task they were told they would be automatically forwarded to the next page. Two sets of 15 multiple choice questions were constructed and each participant was asked to complete a different set after each scenario. Pilot testing indicated that participants would take 2-3 minutes to complete the task. An example of one of the multiple choice questions is: Christiano Ronaldo is a famous: A) tennis player B) footballer C) singer D) politician. For a full list of the questions please see Appendix C.

5.3.5. Apparatus

Participants completed the experiment online using the survey provider Qualtrics and it was possible for them to access the survey using a variety of internet compatible devices including, personal computers, laptops, tablets and mobile phones.

5.3.6. Procedure

Participants responded by email to advertisements and announcements made on Macquarie University noticeboards, in lectures and on unit websites and were sent a return email containing a link to the online experiment run by the survey provider Qualtrics. Participants were randomly assigned to one of the four groups. The first page of the survey was an information and consent form and participants were told that if they clicked on the "next" button to continue with the study they were also providing consent. The information and consent form informed participants that the study had been approved by the Macquarie University Ethics Review Committee for Human Research and provided contact information about how they could make a complaint should they wish. The survey consisted of three sections. In Section 1, demographic data was gathered from participants, including information on gender, age, marital status, educational attainment, current area of study and religious affiliation. Section 2 required participants to complete the sacred value measure for the three topics outlined above. At the start of Section 3 participants were informed that this part of the survey explores peoples' thinking and judgements about what should be permitted to be purchased and sold in markets. Participants were then exposed to each trade-off scenario for a maximum of 90 seconds after which they were automatically forwarded to the moral judgement task. In TG1 participants had 8 seconds to make a moral judgement about the moral acceptability of allowing a legal national live kidney market to operate in either Cobbleton or Creanford. After 8 seconds they were automatically forwarded to the moral reasoning task. In TG2 participants had to wait 3 minutes before making a moral judgement but were not given any instructions about what to do during this time, while in TG3 they were told to deliberate about the trade-off scenario for 3 minutes and could not make a judgement before that time had elapsed. In the CG participants completed a distraction task consisting of 15 multiple choice questions for 3 minutes and then were asked to make a moral judgement about the trade-off scenario.

After completing the moral judgement task participants were given 2 minutes to write down the reasons for their moral judgement and when 2 minutes had elapsed they were automatically forwarded to the next page. Following this, participants were exposed to the second trade-off scenario and associated moral judgement and reasoning tasks. To control for order effects, trade-off scenarios was reversed and the order of the sacred value judgements was also reversed for about one-third of participants chosen at random. In addition, about half the participants were randomly assigned to complete Section 2 first and then section 3 and for the other half of participants, Section 3 was completed before Section 2 in order to assess whether making a moral judgement impacted on the sacred values endorsed by participants. It should be noted that for any part of the experiment that imposed a time constraint on participants they were made aware of this by the presence of a timer counting down in the top right hand corner of the screen. So for example, participants in the no-time-delay group, TG1, could see a timer starting at 8 seconds and counting down to zero during the moral judgement task.

5.4. Results

5.4.1. Sacred Values

Following Baron and Spranca (1997) participants were judged to have endorsed a sacred value about a proposed topic if they chose option 3 and not endorsed a sacred value if they endorsed option 1 or 2. The sacred value measure was used as a manipulation check that the information embedded in the trade-off scenarios for Cobbleton and Creanford had effectively transformed the trade-off into a tragic trade-off. Sacred value endorsement rates for the three sacred values are reported (i) for the whole sample (ii) according to whether the SVM was completed before or after exposure to the trade-off scenarios and (iii) and by time-delay in Table 10. For the sample as a whole 75% of participants endorsed a sacred prohibiting treating people as commodities (SV1), 67% endorsed a sacred value prohibiting

interfering with a person's freedom to do what they want with their body (SV2) and 64% endorsed a sacred value prohibiting allowing someone to die while on a waiting list for a medical transplant (SV3). The majority of participants endorsed each of the three values therefore the framing strategy can be regarded as successful.

Table 10

Sacred Value Measure Responses

	SV1 (%)		SV2 (%)		SV3 (%)	
	No	Yes	No	Yes	No	Yes
Full Sample[a]	25	75	33	67	36	64
SVM After	28	72	31	69	40	60
SVM Before	23	77	35	65	30	70
No Time Delay (NTD)	15	85	41	59	29	71
Time Delay (TD)	29	71	30	70	38	62

[a]n = 146

Pearson's chi-square test of contingencies (with α = .05) was used to evaluate whether patterns of sacred value endorsement differed between the sacred values and according to different order and treatment conditions. Specifically, it was found that endorsement rates were significantly different between SV1 and SV2, χ^2 (1, N = 145) = 4.31, p = .038, Φ = .17 and SV1 and SV3, χ^2 (1, N = 145) = 9.43, p = .002, Φ = .26, although the size of both these effects was small. By contrast, endorsement rates were not significantly different between SV2 and SV3, χ^2 (1, N = 145) =2.62, p = .106. Endorsement patterns for any of the sacred values did not significantly vary depending on whether the SVM was completed before or after the kidney market dilemmas: For SV1 and SVM order, χ^2 (1, N = 145) = .44 p = .509, for SV2 and SVM order, χ^2 (1, N = 145) = .28, p = .599 and for SV3 and SVM order, χ^2 (1, N = 145) =1.33, p = .249.

5.4.2. Moral judgements

5.4.2.1 Cobbleton

Fifteen participants did not provide a moral judgement for Cobbleton in the no-time-delay group and consequently were excluded from the analysis leaving a sample of 131 participants to be analysed. In terms of the impact of time-delay on moral judgements, contrary to Hypothesis 1 there was no statistically significant difference in moral acceptability scores Cobbleton between the no-time-delay group, $M = 4.29$, $SD = 1.60$, compared to the time-delay group, $M = 4.84$, $SD = 1.59$), $t(129) = 1.53$, $p = .129$. Furthermore, moral acceptability scores were not significantly different between the four treatment groups, $F(3, 127) = 1.10$, $p = .350$ (see Table 11).

Table 11

Moral Acceptability Scores by Treatment Group

	TG1	TG2	TG3	CG
Cobbleton				
Mean	4.29	4.92	4.97	4.62
Std. Dev.	1.60	1.40	1.68	1.71
n	24	36	37	34
Creanford				
Mean	4.40	4.94	5.27	4.62
Std. Dev.	1.79	1.53	1.48	1.67
n	30	36	37	34

Further analysis revealed that participants who endorsed SV1 had significantly lower moral acceptability scores than those that did not endorse SV1, $t(129) = 2.41$, $p = .016$, $d = .48$ (small-medium effect size). However, no statistically significant differences were found between participants that did and did not endorse SV2, $t(129) = .50$, $p = .618$, or between those that did and did not endorse SV3, $t(129) = .263$, $p = .793$ (see Table 12).

In addition, moral acceptability scores for Cobbleton did not significantly varying with whether the SVM was completed before or after judgements about Cobbleton, $t(129) = .281$, $p = .779$.

Table 12

Moral Acceptability Scores by Sacred Value Endorsement

	SV1		SV2		SV3	
	No	Yes	No	Yes	No	Yes
Cobbleton						
Mean	5.28	4.54	4.61	4.78	4.71	4.79
Std. Dev.	1.60	1.49	1.87	1.46	1.73	1.51
n	36	95	41	89	49	81
Creanford						
Mean	5.08	4.74	4.55	4.96	4.66	4.97
Std. Dev.	1.56	1.65	1.94	1.42	1.77	2.52
n	36	101	47	89	50	86

5.4.2.2 Creanford

Nine participants did not provide a moral judgement for Creanford in the no-time-delay group and consequently were excluded from the analysis leaving a sample of 137 participants to be analysed. In terms of the impact of time-delay on moral judgements, contrary to expectations mean moral judgement scores concerning the acceptability of a live kidney market operating in Creanford were not significantly different in the no-time-delay group, $M = 4.40$, $SD = 1.79$, compared to the time-delay group, $M = 4.95$, $SD = 1.57$), $t(135) = 1.65$, $p = .100$. Furthermore, moral judgement scores were not statistically significantly different between the four treatment groups, $F(3, 133) = 1.88$, $p = .135$ (see Table 11).

Additional analysis showed that participants who endorsed SV1 did not have a significantly lower moral acceptability score than those that did not endorse SV1. Similarly,

no statistically significant differences, $t(134) = 1.38$, $p = .618$, were found between participants that did and did not endorse SV2, or between those that did and did not endorse SV3, $t(129) = .263$, $p = .793$ (see Table 12).

In addition, mean moral acceptability scores for Creanford were not statistically significantly different depending on whether the SVM was completed before or after judgements about Creanford, $t(135) = .51$, $p = .608$.

5.4.3. Quantity Sensitivity

When examining quantity sensitivity only those participants that provided moral judgements for both Cobbleton and Creanford were included in the analysis. Consequently the sample size declined to 125 because 21 participants in the no-time-delay group failed to provide at least one judgement. No statistically significant difference was found in the moral acceptability scores of live kidney markets between Cobbleton and Creanford for either the sample as a whole, $F(1, 123) = 1.61$, $p = .207$ or in the no-time-delay, $t(17) = .70$, $p = .495$. In particular, no statistically significant difference was found between Cobbleton and Creanford in the time-delay condition, $t(106)$ 1.19, p =.237, therefore Hypothesis 2 was not confirmed. Nor was a significant difference found between or treatment groups, $F(1, 121) = .67$, $p = .575$. A statistically significant difference was also not found for gender, $F(1, 123) = 2.40$, $p = .124$, and given that no specific hypothesis existed for gender it was not subjected to further analysis. In addition, this quantity insensitivity was found irrespective of the order in which Cobbleton and Creanford were presented, $F(1, 123) = 1.30$, $p = .257$ and irrespective of whether the SVM was completed before or after the moral judgement tasks, $F(1, 123) = .18$, $p = .672$.

Further analysis investigated whether quantity sensitivity varied with responses on the SVM task. Specifically, it was found that moral acceptability scores for live kidney markets in Cobbleton and Creanford did not differ significantly from each other irrespective of whether

SV2 was endorsed or not, $F(1,122) = .34$, $p = .560$ or SV3 was endorsed or not, $F(1, 122) = .85$, $p = 357$. However, a small significant interaction was found between the SV1 response and the difference in the moral acceptability scores, $F(1, 123) = 4.20$, $p = .043$ and partial $\eta^2 = .033$. Furthermore, this effect was driven by those participants that endorsed SV1 as they recorded significantly higher moral acceptability scores for Creanford compared to Cobbleton while those that did not endorse SV1 did not record a significant difference in moral acceptability scores. In addition, this finding was against expectations because those that endorsed SV1 were expected to be insensitive to quantity manipulations.

5.4.4. Moral Reasoning

Only participants that recorded a moral judgement had their reasons analysed. Moral judgements were recoded so that moral acceptability scores of 1 to 3 were coded as disapproving of the proposed live kidney market, 4 was coded as neutral about the proposed live kidney market and 5 to 7 was coded as approving of the live kidney market. Two graduate students in economics blind to the purposes of the experiment independently rated the reasons provided by participants for consistency with their moral judgements. They also rated reasons on the basis of other criteria but that information was not used. The instructions to coders are available in Appendix C. Two hundred and ninety three pairs of reasons and judgements were assessed for their consistency, the two raters agreed in 85% of cases. Cohen's kappa was calculated with this data to assess inter-rater reliability and it was found to be good (K = .67). Inter-rater disagreements were then resolved through discussion between the two raters with a third-party.

Differences in consistency between those participants in the no-time-delay group and the time-delay groups were examined using Fisher's exact test because one cell had expected frequencies less than five. For Cobbleton, no significant difference was found in consistency

between the groups, $df = 1$, $p = .473$ and the same result was found for Creanford, $df = 1$, $p = .564$. Therefore, Hypothesis 3 was not confirmed.

5.5. Discussion

5.5.1. Sacred Values

As a manipulation check of the framing strategy three topics were investigated to explore the extent to which they were regarded as sacred values (SV). All three topics, treating people as commodities (SV1), freedom to use your body without interference from others (SV2), and allowing someone to die while on a waiting list for a medical procedure (SV3) had high rates of sacred value endorsement. In two-way comparisons a common pattern of endorsement emerged such that if a SV was not endorsed, a smaller than expected number endorsed the other SV while if the first SV was endorsed a larger than expected number also endorsed the other SV. As reported there were small but significant differences in this pattern between SV1 and SV2 and SV1 and SV3 but not for SV2 and SV3. This suggested that SV1 may have a different effect on moral judgements than SV2 or SV3.

5.5.2. Moral Judgements

Contrary to expectations the time delay manipulation did not have a significant impact on moral judgements. While not significant, the overall pattern of results was consistent with expectations, with moral acceptability scores being higher in the time-delay groups than the no-time-delay group, and also being highest for those who were specifically asked to deliberate on their moral judgement for at least three minutes. The failure to find the expected effect between time and moral judgement could be due to a number of factors. Firstly, there was a loss of data with 31% of moral judgements in the no-time-delay group not being recorded within the allotted 8 seconds. One possibility for this is that participants found it too morally difficult to make a decision and thus recorded no judgement. Against this argument is the fact that no participant in the time delay treatment groups failed to record a moral

judgement for either Cobbleton or Creanford. Consequently, it is likely that providing a moral judgement on a 7-point scale was too time consuming for a significant proportion of participants. The 7-point scale had been used to make the results comparable with Paxton, Ungar and Greene (2011) that examined the relationship between time and moral judgement and this problem had not presented itself when informally trialling the experimental materials. Suter and Hertwig (2011) also examined the relationship between time and moral judgement and allowed participants 8 seconds to make a moral judgement in their time-pressure group. They reported that it took on average less than 3 seconds for participants to make their moral judgement and also reported that only 3 out of 33 (11%) participants missed having a moral judgement recorded. However, they also used a simpler Yes or No moral judgement scale. In order to rule out the possibility that loss of data prevented a significant relationship being revealed between time and moral judgements about markets for live kidneys, it was decided to re-run the experiment using a Yes or No scale on which participants recorded their moral judgement.

5.5.2.1 Moral judgements and sacred values

The only sacred value that had a significant impact on moral judgements was, SV1 which related to whether people should be treated like commodities. Participants who endorsed SV1 reported significantly lower moral acceptability scores for Cobbleton than those who did not endorse SV1. This difference in moral acceptability scores was not found for Creanford which involved kidney waiting lists and deaths on waiting lists up to one hundred times greater than in Cobbleton.

In addition, SV1 was found to be the only SV associated with a significant difference in moral acceptability scores between Cobbleton and Creanford. Specifically, moral acceptability scores were significantly higher for Creanford compared to Cobbleton. In the light of Baron and Spranca (1997) this finding was unexpected because sacred values are

associated with quantity insensitivity. Thus, when waiting lists increase one hundredfold as they do between Cobbleton and Creanford it should not lead to a change in moral acceptability. However, the rise in moral acceptability may not be a response to the increased negative consequences of proscribing live kidney markets, but rather it may be due to a stronger activation of another sacred value connected with preserving life, thus making the trade-off more tragic which has been shown to be associated with higher levels of moral acceptability (Tetlock et al. 2000; Hanselmann & Tanner, 2008). It is difficult to know what is driving the increase in moral acceptability, and greater insight into the moral reasoning of participants might shed more light on this question. For example, if reasoning is more consequentialist it would suggest that the trade-off resistance of sacred values can be undermined by increasing the costs of maintaining a trade-off as taboo in a manner similar to that which Baron and Leshner (2000) found. By contrast, if it is more deontological, then the trade-off resistance of sacred values can only be undermined by activating another sacred value that converts the taboo trade-off into a tragic trade-off. In the light of this, it was decided to include the deontological and consequentialist orientation scale (DCOS) in Experiment 2.

5.5.2.2 Moral judgements and moral reasoning

When people were asked to provide moral reasoning for their moral judgement about live kidney markets in Cobbleton and Creanford it provided an opportunity to see if moral reasoning was consistent with the moral judgement. If consistency in the time-delay group was significantly greater than consistency in the no-time-delay group, it may have indicated that moral dumbfounding was an issue for some participants in the no-time-delay group (Haidt, 2001; Haidt, Bjorklund & Murphy, 2000). Moral dumbfounding (Haidt et al. 2000) is a tendency for some people who make moral judgements based on strong moral intuitions, to not be able to provide a coherent set of reasons for their judgements. If significant evidence of

moral dumbfounding had been found it may have provided insight into how responsive participants under time pressure when making a moral judgement are to revising that judgement. This is because Haidt et al. (2000) indicated that people demonstrating moral dumbfounding are quite stubborn at holding onto their judgement despite clear reasons for holding their views. The results, however, showed that there was no significant difference in consistency between the time-delay groups and the no-time-delay group.

5.5.3. Conclusion

In order to address the problem of data loss in the no-time-delay group it was decided to run a second experiment with a different and simpler moral judgement task that required participants to only make a Yes or No judgement. In addition, it was decided to include the DCOS in Experiment 2 to provide insight into the style of moral reasoning participants used when accounting for their moral judgements.

5.6. Experiment 2

5.6.1 Hypotheses

The aims of Experiment 2 were the same as the aims for Experiment 1 except for aim (iii). In Experiment 2 (iii) involved testing to see if a person's moral reasoning about a moral judgement is based on deontological or consequentialist principles. The specific hypotheses are detailed below.

Suter and Hertwig (2011) found that participants under time-pressure make a greater proportion of deontological decisions than do participants who have to deliberate for 3 minutes.

Hypothesis 1: Participants in the no-time-delay group will have a significantly higher proportion of No responses to proposals for live kidney markets in Cobbleton and Creanford compared to participants in the time-delay group.

Based on Suter and Hertwig (2011) and Greene et al. (2008) participants in the no-time-delay group will be quantity insensitive because moral judgements are based on deontological rules. Whereas participants in the time-delay group will exhibit quantity sensitivity because moral judgements are based on consequentialist principles.

> Hypothesis 2: The proportion of Yes responses for Creanford will be significantly greater than the proportion of Yes responses for Cobbleton in the time-delay group.

Based on Suter and Hertwig (2011) who found a greater proportion of deontological responses in the time-pressure group compared to the no-time-pressure group the following hypothesis was proposed.

> Hypothesis 3: Participants in the no-time-delay group will have mean deontological scores that are significantly higher than the mean deontological scores in the time-delay group for Cobbleton and Creanford.

In the light of the results from Study 2 that found that participants who disapproved of kidney market proposals had significantly higher deontological scores than consequentialist scores and those participants who approved of kidney market proposals reported the opposite, the following hypotheses are proposed.

> H4a: Participants that responded "No" to live kidney markets in Cobbleton or Creanford will have significantly higher mean deontological scores than mean consequentialist scores.

> H4b: Participants that responded "Yes" to live kidney markets in either Cobbleton or Creanford will have significantly higher mean consequentialist scores than mean deontological scores.

5.7. Method

5.7.1. Participants

A total of 88 people participated in the online experiment. They were recruited using the survey company Qualtrics and were rewarded in a variety of ways including small financial payments worth approximately one dollar and in-kind payments such as vouchers for particular stores. Of the sample 34 (39%) were males and 54 (61%) were females. The participants ranged in age from 18 to 55 years with an average age of 25. In terms of education, 48% had completed a post-secondary school qualification while 52% had completed secondary school. In order to increase comparability with earlier experiments participants had to be currently enrolled at an Australian university. Of those sampled 28% were enrolled in a business program, 16% in arts (including law) and 57% in the human and natural sciences. In addition, 56% indicated they had no religious affiliation and 44% said they did and of those 89% identified as Christian.

5.7.2. Experimental Design

The participants were randomly assigned to one of two treatment groups. The size of the groups was set to have an 80 per cent chance of finding a strong medium effect size (Cohen's d = .6 to .7) with α = .05 (Hanna & Dempster, 2012). The independent variables were time-delay and quantity sensitivity. Delay was a between-subjects variable and participants were randomly allocated to either a no-time-delay condition or a time-delay condition. In the no-time-delay treatment group (TG1, n = 43) participants were given 8 seconds to make a moral judgement about a trade-off scenario. By contrast, in the time-delay treatment group (TG2, n = 45) participants were asked to think about a trade-off scenario for 3 minutes and then make a moral judgement. Quantity sensitivity was a within-subjects variable and participants were exposed to two trade-off scenarios that differed in terms of the

number of people who were suffering. The dependent variables of interest were moral judgement and styles of moral thinking.

5.7.3. Instruments

5.7.3.1 Sacred value measure

The sacred value measure was developed by Baron and colleagues (Baron & Spranca, 1997; Ritov & Baron, 1999) and was used in Experiment 1 of this Study. Please consult the Method section of Experiment 1 for a fuller description. Participants in the current experiment were asked about the same three topics they were asked about in Experiment 1: (i) Treating people as commodities; (ii) Interfering with people's freedom to choose what they do with their bodies and; (iii) Allowing someone to die while they are on a waiting list for a medical procedure. As in Experiment 1 the sacred value measure functioned primarily as a manipulation check on whether the information embedded in the trade-off scenarios for Cobbleton and Creanford had effectively transformed the trade-off into a tragic trade-off.

5.7.3.2 Moral judgement

Participants were asked to respond to each trade-off scenarios using a Yes or No scale. This abbreviated response scale was used to minimise the loss of data due to participants in the no-time-delay group only having 8 seconds to record their moral judgements. This approach was used by Suter and Hertwig (2011) to study the impact of time on moral judgement.

5.7.3.3 Deontological and consequentialist orientation scale (DCOS)

The DCOS has not been used extensively in psychology but has been used by Tanner, Medin and Iliev (2008) and Sacchi, Riva, Brambilla and Grasso (2014) in the context of investigating moral judgement and reasoning. The scale measures the style of moral reasoning people use when thinking about a moral dilemma and is comprised of eight items with four items measuring deontological orientation and four items measuring consequentialist

orientation. The scale was used in Study 2 and a full description is available in that study's method section.

5.7.4. Manipulation Materials

5.7.4.1 Time-delay

Following Suter and Hertwig (2011) the time participants had to make a moral judgement was manipulated such that participants either faced no-time-delay or a time-delay. In the time-delay group participants had 8 seconds to make a moral judgement about a trade-off scenario and in the time-delay group participants were asked to deliberate for 3 minutes about a trade-off scenario and were not able to record their moral judgement until 3 minutes had elapsed.

5.7.4.2 Trade-off scenarios and quantity

The trade-off scenarios or moral dilemmas used in the experiment related to the permissibility of live kidney markets operating in two imaginary geographical locations called Cobbleton and Creanford and were the same as those used in Experiment 1 of this Study. Please consult the method section of Experiment 1 for the full text of the scenarios and information about the quantity manipulation.

5.7.4.3 Apparatus

Participants completed the experiments online using the survey provider Qualtrics and it was possible for them to access the survey using a variety of internet compatible devices including, personal computers, laptops, tablets and mobile phones.

5.7.4.4 Procedure

Participants responded to a request by Qualtrics to participate in a survey and were sent a link to the survey. They were asked if they were currently enrolled at an Australian

university and if they answered "Yes" they continued with the survey and if they answered in the "No" they were taken to the end of the survey and thanked but not allowed to participate further. In addition, if they answered "Yes" they were asked to read an information and consent page and told that if they clicked on the "next" button they were providing consent. The information and consent form told participants that the study had been approved by the Macquarie University Ethics Review Committee for Human Research and provided contact information about how they could make a complaint should they wish. Participants then completed a survey comprised of three sections. In Section 1 participants completed a demographic questionnaire that gathered information on gender, age, educational attainment, field of study at university, marital status and religious affiliation. Section 2 required participants to complete the sacred value measure for three topics. Finally, in Section 3 participants made moral judgements about each of the trade-off scenarios using a Yes/No scale. Prior to exposure to the trade-off scenarios participants were told that this part of the survey explores peoples' thinking and judgements about what should be permitted to be purchased and sold in markets. Participants were informed they could read each trade-off scenario for a maximum of 90 seconds after which they would be automatically forwarded to the moral judgement task. For any part of the experiment that imposed a time constraint on participants they were made aware of this by the presence of a timer counting down in the top right hand corner of the screen. Depending on the treatment group they had been assigned to participants had either 8 seconds or 3 minutes to make a moral judgement about the moral acceptability of allowing a legal national market for kidneys from living persons to operate in Cobbleton or Creanford. Following their judgement participants completed the DCOS. To explore whether making a moral judgement impacted on the sacred values endorsed by participants the order of Sections 2 and 3 were reversed, such that 43 participants completed the sacred value measure prior to exposure to the trade-off scenarios and 45 participants completed the sacred value measure after exposure to the scenarios. It should be noted that

participants had to complete the survey in one sitting and it was not possible for participants to go back and change or revise a response once they had moved to the next page of the survey.

5.8. Results

5.8.1. Sacred Values Measure

Following Baron and Spranca (1997) participants were judged to have endorsed a sacred value about a proposed topic if they chose option 3 and not endorsed a sacred value if they endorsed option 1 or 2. Endorsement rates are reported in Table 13. For the sample as a whole 60% of participants endorsed a sacred prohibiting treating people as commodities (SV1), 64% endorsed a sacred value prohibiting interfering with a person's freedom to do what they want with their body (SV2) and 67% endorsed a sacred value prohibiting allowing someone to die while on a waiting list for a medical transplant (SV3). The sacred value measure was used as a manipulation checking for the framing strategy and because the majority of participants endorsed each of the three values, the framing strategy can be regarded as successful in creating a tragic trade-off.

In addition, endorsement rates are also reported by treatment group and by the order in which participants completed the sacred value measure (SVM) and the kidney market dilemmas. For the condition labelled Order 1, participants completed the SVM followed by the kidney market dilemmas and for Order 2 participants completed the kidney market dilemmas first then the SVM.

Table 13

Sacred Value Measure Responses

	SV1 (%)		SV2 (%)		SV3 (%)	
	No	Yes	No	Yes	No	Yes
Full Sample (n = 88)	40	60	36	64	34	66
Order 1 (n = 43)	33	67	30	70	33	67
Order 2 (n = 45)	47	53	42	58	36	64
TG 1 (n = 43)	42	58	49	51	35	63
TG 2 (n = 45)	38	62	24	76	33	66

Further analysis was performed to explore whether patterns of sacred value endorsement differed between the sacred values and under different conditions. Pearson's chi-square test of contingencies (with $\alpha = .05$) was used for this evaluation. Specifically, it was found that endorsement rates were significantly different between SV1 and SV2, χ^2 (1, N = 88) = 36.11, $p < .0005$, $\Phi = .64$ and SV2 and SV3, χ^2 (1, N = 88) = 5.66, $p = .017$, $\Phi = .25$ although the effect size was large for SV1 and SV2 and small for SV2 and SV3 (Cohen, 1988). By contrast, endorsement rates were not significantly different between SV1 and SV3, χ^2 (1, N = 88) =3.49, $p = .062$. Endorsement patterns were not significantly different whether the SVM was completed before or after the kidney market dilemmas: For SV1, χ^2 (1, N = 88) = 1.83, $p = .176$, for SV2, χ^2 (1, N = 88) = 1.37, $p = .243$ and for SV3, χ^2 (1, N = 88) = .08, $p = .767$. Nor were they effected by religious affiliation: For SV1, χ^2 (1, N = 88) = .05, $p = .830$, for SV2, χ^2 (1, N = 88) = .13, $p = .715$ and for SV3, χ^2 (1, N = 88) = 3.78, $p = .052$. Gender did significantly impact on endorsement patters for SV1, χ^2 (1, N = 88) = 4.01, $p = .045$, $\Phi = .21$ and SV2, χ^2 (1, N = 88) = 9.12, $p < .003$, $\Phi = .32$ and this was driven by females being more likely than males to endorse SV1 and SV2 as sacred.

5.8.2. Moral Judgements

5.8.2.1 Cobbleton and Creanford

Forty three participants were in the no-time-delay group (TG1) that required moral judgements to be made within 8 seconds. When faced with whether to allow a market for live kidneys to operate in Cobbleton 19 (44%) participants responded "Yes" and 14 (33%) responded "No". The remaining 10 (23%) participants did not record a response. In addition, faced with the same decision for Creanford 25 (58%) participants responded "Yes", 13 (30%) responded "No" and 5 (12%) did not record a response. Only four participants changed their moral judgement about the acceptability of a live kidney market following exposure to either Cobbleton or Creanford. Specifically, one participant who responded No to Cobbleton responded with a "Yes" to Creanford and 3 participants who responded with a "Yes" in Cobbleton responded with a "No" in Creanford. A McNemar test indicated that exposure to a different society did not cause a significant change in the moral judgements of participants in the time pressure group (p = .625).

The time-delay group (TG2) consisted of 45 participants who had to make their moral judgements about Cobbleton and Creanford respectively after three minutes deliberation. In terms of Cobbleton, 31 (69%) participants responded Yes and 14 (31%) responded No. Similar results were found for Creanford with 27 (60%) participants responding Yes and 18 (40%) responding No. It should be noted that unlike TG1 all participants in TG2 provided a response in both scenarios. Furthermore, in TG2 not a single participant who responded No for Cobbleton responded Yes for Creanford. While only 4 participants who said Yes for Cobbleton responded No to Creanford. Furthermore, as in TG1 a McNemar test indicated that exposure to a different society did not cause a significant change in the moral judgements of participants in the no time pressure group (p = .125).

A Pearson's chi-square test of contingencies (with $\alpha = .05$) was used to investigate the role of time-delay in moral judgements about live kidney markets in either Cobbleton or Creanford. Participants that did not provide a moral judgement were excluded from the analysis and this reduced the sample size for Cobbleton to 78 and 83 for Creanford. Contrary to Hypothesis 1 the chi-square test was statistically insignificant for Cobbleton, χ^2 (1. N = 78) = 1.06, $p = .303$ and for Creanford, χ^2 (1, N = 83) = .30, $p = .587$, indicating that time delay did not play a role in participant's moral judgements.

Further analysis revealed that moral judgements were also not effected by the whether the sacred value task was undertaken before compared to after evaluating the moral acceptability of live kidney markets in Cobbleton, χ^2 (1, N = 78) = .22, $p = .637$ and for Creanford, χ^2 (1, N = 83) = .88, $p = .349$. In addition, no significant relationship was found between moral judgements concerning live kidney markets in Cobbleton and endorsement of any of the sacred values; for SV1 ($p = .586$), for SV2 ($p = .401$) and for SV3 ($p = .206$). The same pattern of results also applied for Creanford; for SV1 ($p = .158$), for SV2 ($p = .226$) and for SV3 ($p = .459$).

5.8.3. The Deontological-Consequentialism Orientation Scale (DCOS)

Responses to the DCOS were analysed for only those participants that had made a moral judgement regarding live kidney markets for both Cobbleton and Creanford, consequently, the sample size was reduced to 75. The first four items of the DCOS are designed to measure deontological orientation while the second four items measure consequentialist orientation. The analysis that follows was performed on the mean scores for each of the eight items for both Cobbleton and Creanford.

Prior to undertaking the exploratory factor analysis the data were examined to see if they were normally distributed. While the data were not perfectly normally distributed, the deviations were not considered serious given the robust nature of factor analysis (Allen,

Bennett & Heritage, 2014). A factor analysis was carried out and based on previous research (Sacchi et al., 2014; Tanner, Medin & Iliev, 2008) a two factor solution was sought. Specifically, a principal axis analysis was conducted using varimax rotation. Initial results revealed that the data was suitable for factor analysis with the Determinant of the correlation matrix equal to .018 above the threshold value of .00001 ruling out multicollinearity, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy equal to .79 above the threshold value of .6 and Bartlett's test of sphericity being non-significant indicating factorability. Two factors had eigenvalues greater than one that is the traditional threshold for deciding how many factors to retain (Manly, 2004). The first factor had an eigenvalue equal to 3.67 and the second an eigenvalue equal to 2.14 that accounted for 45.34% and 26.80% of the variance respectively and cumulatively 72.14% of the variance to be explained. Each of the factors loaded on four items with factor one made up of the four consequentialist items and factor two comprised of the four deontological items. To test for the internal reliability of the four deontological items Cronbach's α was calculated and found to be .85 which is acceptable for a scale involving a small number of items (Leech, Barrett and Morgan, 2008). A similar analysis was undertaken for the consequentialist items and Cronbach's α was .90 which is also acceptable. On the basis of the reliability analysis and the exploratory factor analysis it was decided to create a mean deontological variable from the four deontological items and a mean consequentialist variable from the four consequentialist items.

Table 14

Correlation Matrix

Item[a]	Deon 1	Deon 2	Deon 3	Deon 4	Cons 1	Cons 2	Cons 3	Cons 4
Deon 1	1.00							
Deon 2	.75	1.00						
Deon 3	.56	.62	1.00					
Deon 4	.37	.48	.41	1.00				
Cons 1	.26	.29	.24	- .01	1.00			
Cons 2	.30	.27	.26	- .02	.68	1.00		
Cons 3	.15	.23	.17	- .08	.81	.64	1.00	
Cons 4	.32	.20	.17	- .09	.66	.68	.65	1.00

[a]*n* = 75

Table 15

Eigenvalues

	Initial Eigenvalues		
Factor[a]	Total	% of Variance	Cumulative %
1	3.63	45.34	45.34
2	2.14	26.80	72.14
3	.63	7.88	80.02
4	.49	5.14	86.16
5	.42	5.24	91.40
6	.31	3.93	95.32
7	.21	2.61	97.94
8	.17	2.06	100.00

[a]*n* = 75

Table 16

Rotated Factor Matrix

	Factor	
Item	Consequentialist	Deontological
Cons 1	.87	
Cons 3	.86	
Cons 4	.79	
Cons 2	.78	
Deon 2		.89
Deon 4		.77
Deon 1		.69
Deon 3		.57

n = 75

Hypothesis 3 was not confirmed. Specifically, for Cobbleton, there was no significant difference in deontological scores between TG1 (*M*= 4.57, *SD* = 1.05) and TG2 (*M* = 4.33, *SD* = 1.18), *t*(73) = .89, *p* =.374. This was also the case for Creanford as well; TG1 (*M* = 4.53, *SD* = 1.02) v TG2 (*M* = 4.36, *SD* = 1.25), *t*(73) = .65, *p* = .518. In addition, Hypothesis 5 was not confirmed with no statistically significant difference being found between the mean deontological scores of those that did and did not endorse SV1, for Cobbleton, *t*(76) .357, *p* = .722 or for Creanford *t*(81) = .339, *p* = .735.

Table 17

Mean Deontological and Consequentialist Scores by Moral Judgement

	Cobbleton		Creanford	
	Yes	No	Yes	No
Deontological				
M	4.44	4.47	4.46	4.37
Std. Dev.	1.03	1.29	.99	1.35
n	50	28	52	31
Consequentialist				
M	4.96	3.96	4.98	3.85
Std. Dev.	1.22	1.15	.99	1.24
n	50	28	52	31

The mean deontological and consequentialist scores for participants that responded "Yes" or "No" to the proposal for live kidney markets in Cobbleton and Creanford are reported in Table 17. Participants that responded "No" to live kidney markets did not report a statistically significant positive difference between their mean deontological scores and their mean consequentialist scores in either Cobbleton, $t(27) = 1.42$, $p = .168$, or, Creanford, $t(30) = 1.56$, $p = .130$. Therefore, Hypothesis 4a was not confirmed. However, consistent with Hypothesis 4b participants that responded "Yes" to live kidney markets in Cobbleton reported mean consequentialist scores that were higher than mean deontological scores and this difference was statistically significant, $t(49) = 3.33$, p .002, $d = .5$ (medium effect size). Hypothesis 4b was also confirmed for Creanford, $t(51) = 4.23$, $p < .0005$, $d = .5$ (medium effect size). Interestingly, this relationship even held in the no-time-delay group for Creanford, $t(24) = 2.91$, $p = .008$, $d = .6$ (medium effect size), but not for Cobbleton, $p = .092$. To support this finding, mean consequentialist scores were compared between those that responded "Yes" and those that responded "No" in the no-time-delay group and were found to

be higher and this difference was statistically significant for Cobbleton, $p = .002$, $d = .5$ (medium effect size) and Creanford, $p < .0005$, $d = 1.4$ (large effect size).

5.9. Discussion

5.9.1. Sacred Values

The topics examined in the present experiment were the same as those investigated in Experiment 1, to determine the extent to which they were regarded as sacred values. Similar rates of sacred value endorsement were found for each of the three topics in the present experiment as were found in Experiment 1, with a clear majority of participants endorsing each of the three topics as sacred values. Similar to Experiment 1 patterns of sacred value endorsement were significantly different between the sacred value proscribing treating people as commodities (SV1), and the sacred value proscribing interfering with people's use of their own bodies (SV2). However, unlike Experiment 1 the patterns of sacred value endorsement between SV2 and the sacred value proscribing allowing someone to die while on a waiting list for a medical procedure (SV3) were significantly different, and the patterns of SV1 and SV3 were not significantly different. Where the patterns of endorsement were significantly different they were different in the same way they were in Experiment 1, with fewer people than expected endorsing a sacred value when the other value had not been endorsed, and more people than expected endorsing a sacred value when the other value had been endorsed.

5.9.2. Moral Judgements

The move from a 7-point judgement scale to a Yes or No judgement did result in a reduction in data loss with only 17% of moral judgements not being recorded compared to 31 per cent in Experiment 2. This degree of data loss is much closer to that found by Suter and Hertwig (2011) who reported a loss of 11 per cent.

For the sample as a whole there was no significant difference in the pattern of moral judgements for Cobbleton and Creanford, with "Yes" being the dominant response to the proposal for a live kidney market. In addition, there was no significant difference in the pattern of moral judgements between the no-time-delay and time-delay groups with the "Yes" response also being the dominant response in both groups. Consequently, it can be concluded that the time manipulation did not produce the expected effect on moral judgements. In addition, endorsement of any of the sacred values, including the sacred values about treating people as commodities, had no impact on the pattern of moral judgements in either Cobbleton or Creanford. In the light of these findings it was not surprising that there was no significant difference in deontological orientation scores between the no-time-delay group and the time-delay group and also no difference in deontological orientation on the basis of endorsing or not endorsing the sacred value about treating people as commodities (SV1).

Differently from Study 2, participants that disapproved of live kidney markets did not have significantly higher deontological orientation scores than consequentialist orientation scores for both Cobbleton and Creanford. However, consistent with Study, 2 participants that approved of live kidney markets had significantly higher consequentialist orientation scores than deontological orientation scores, for both Cobbleton and Creanford. Furthermore, this pattern of results was found for the no-time-delay group and also it was shown that comparing those who approved with those disapproved of live kidney markets in this group, they did so on the basis of differences in consequentialist orientation scores. These results are interesting because they are not consistent with Greene's dual process model according to which S1 processing tends to be more non-utilitarian in nature. To elaborate, Greene et al. (2008) reported that the proportion of utilitarian judgements was not affected by cognitive load and under conditions of no cognitive load, reaction times did not differ between utilitarian and non-utilitarian responses to moral dilemmas. It was acknowledged in Greene et al., that these findings were at odds with the dual process model that expected an increase in non-utilitarian

responses under load, and that non-utilitarian responses would be faster under no load. Taken together, these results indicated that utilitarian or consequentialist thinking is far more a feature of S1 processing than is articulated by the dual process model in relation to moral judgement. Other scholars, especially Kahane (2010 &2012), have raised similar issues to these about Greene's dual process model.

5.10. Discussion of Experiments 1 and 2

The aim of the experiment was to investigate whether manipulating the time available to assess a taboo trade-off relating to live kidney markets altered the moral acceptability of the trade-off. The results showed that irrespective of what moral judgement scale was used there was no significant impact of time on moral judgement in this experiment. These results are not consistent with the expectation that moral acceptability would be higher in the time-delay group compared to the no-time-delay group given than in the former group there was more time for the deliberation which would enable some participants to put aside their negative intuitive responses about live kidney markets, resulting in moral judgements more consistent with a consequentialist perspective. A possible explanation for failing to find such an effect is suggested by Suter and Hertwig (2011) who reported that manipulating time pressure was only effective for personal high-conflict moral dilemmas and was not effective for impersonal moral dilemmas or personal low-conflict moral dilemmas. The reason for this was that the personal low-conflict and impersonal moral dilemmas did not trigger a strong enough emotional response (Greene et al., 2001; Greene et al., 2009). Another possible reason for failing to find a significant effect for the time manipulation in Experiment 1 was that the sample size was not large enough. Given the relatively low observed probability values when testing for differences in moral acceptability scores between the no-time-delay and the time-delay groups, it is possible that increasing the sample size would result significant differences being found.

In terms of sacred values there was a clear tendency for participants to endorse all three sacred values. Of the three sacred values examined in the present experiments the only one that generated significant effects was the sacred value proscribing treating people as commodities (SV1). In Experiment 1, endorsing SV1 did have a significant negative effect on moral acceptability scores for Cobbleton, however, this effect was not present for Creanford. Interpreting why this effect was extinguished is difficult, and it was expected the scores from the DCOS task in Experiment 2 may have shed light on this issue. Unfortunately, in Experiment 2, SV1 had no significant effects on moral judgements and nor did endorsing or not endorsing it result in any significant differences in deontological and consequentialist orientation scores. Due to finding not being replicated in Experiment 2 it will not be discussed further.

The findings in Experiment 2 that for those who approved of live kidney markets as a solution to the kidney shortage in Cobbleton and Creanford consequentialist considerations were of greater importance than deontological principles was consistent with Study 2. The particularly interesting result was that it was also found in the no-time-delay group. Time pressure, is assumed to cause S1 processing, such that moral judgements will be based on moral intuitions backed by moral rules that are typically assumed to be deontological (Suter & Hertwig, 2011). However, these findings indicated that even under time pressure participants may have made use of moral intuitions grounded in consequentialist principles, such as form of rule utilitarianism. This interpretation is supported by the finding that there was no significant difference in deontological orientation scores between those that approved and those that disapproved of live kidney markets in the no-time-delay condition. Putting these findings and associated conjectures together, suggests a picture of S1 processing of taboo trade-offs in which sacred values backed by deontological rules clash with consequentialist considerations that have also been routinized into rules. The current experiment however does not cast any definitive light on this issue.

It should be noted that participants completed the DCOS after having made their moral judgement and consequently maybe constructing an account of the reasons for their moral judgement that simply rationalizes their judgement (Haidt, 2001) and not providing an account of what reasoning processes they actually went through when forming their moral judgement. Therefore, these findings should be regarded with caution.

The finding of quantity insensitivity for the sample as whole suggested that ceiling effects may have been operating for many participants. Moreover, ceiling effects may have been driven by a mechanisms described by Slovic (2007; Slovic & Västfjäll, 2015; Västfjäll, Slovic & Mayorga, 2015) as psychic numbing that refers to numerical representations of human lives not necessarily conveying the importance of those lives. To illustrate how psychic numbing works Slovic pointed to the "identifiable victim effect" which refers to the increased willingness of people to aid or respond to an identified individual victim compared to an unidentified or statistical victim (Kogut & Ritov, 2005; Schelling, 1968; Small & Loewenstein, 2003 & 2005; Jenni & Loewenstein, 1997). In terms of the present experiments, the stimuli represented people statistically, in relatively large numbers, rather than individually, and this may have reduced the emotional impact of the moral dilemmas and thus likelihood of finding a differential effect for time.

5.11. Conclusion

Overall, the two experiments did not demonstrate a relationship between time and moral judgements about market-based solutions to the kidney shortage in Cobbleton and Creanford. Specifically, being required to wait 3 minutes before making a moral judgement did not significantly increase moral acceptability scores. The experiments also did not reveal a particularly important role for sacred values in generating differences in moral judgements. In addition, Experiment 2 showed that consequentialist considerations were reported as being important in the formation of moral judgements made under time-pressure and these

considerations operated alongside of the deontological rules that support sacred values when S1 processing is activated.

CHAPTER 6

GENERAL DISCUSSION

The thesis has been an exploration of what psychology can contribute to our understanding of the moral limits of markets in society. It examined how we might determine where those limits lie and how flexible are those limits at a point in time. This chapter is intended to integrate the findings of the studies and examine the implications of these findings for theories of sacred or protected values. It will also discuss the implications for experimental measures and materials used in decision contexts involving taboo trade-offs about market exchanges. In addition, the implications of these findings for public policy are also discussed. Finally, the limitations of the studies along with future directions for research are considered.

6.1. Tetlock's SVPM

Tetlock's SVPM (Tetlock, 2000 & 2003; Tetlock et al., 2000) is the most comprehensive account of decision-making involving sacred values in the psychological literature. According to Tetlock (2003) there are three mechanisms, or what he calls, hypotheses that operate in decision contexts involving sacred values; the moral outrage hypothesis, the moral cleansing hypothesis and the reality-constraint hypothesis. Tetlock tested the first two hypotheses in Tetlock et al. (2000) and the third hypothesis in an experiment described in both Tetlock (2000) and Tetlock (2003). Study 1 in this thesis is the first attempt to test all three hypotheses of the SVPM in a single integrated experiment.

Study 1 attempted to replicate, strengthen and extend Tetlock's original studies (Tetlock, 2000; Tetlock et al., 2000). Tetlock's studies involved participants recruited in the early 1990s when no measures of sacred values were available, so Tetlock developed the moral outrage index and used it to identify value trade-offs associated with sacred values and

also to measure the impact of challenging those sacred values. In a sense the measure was doing two jobs simultaneously. Study 1 strengthened Tetlock's early work by incorporating into its design a new measure of sacred values developed by Tanner et al. (2009). This measure established whether the value trade-offs classified as routine and taboo trade-offs could be distinguished on the basis of their association with sacred values. The moral outrage index was then used to test the impact of challenging sacred values. Study 1 extended the model by replicating Tetlock (2000) in order to examine which type of reframing strategy was effective in getting people to revise their moral judgements as measured by the moral outrage index. This question was not answered in Tetlock (2000). Additionally, the affective, cognitive and behavioural components were analysed to see which components drive changes in the index. Consequently, Study 1 represented an attempt to comprehensively exam the key propositions of the SVPM in a single experiment.

In terms of results, the moral outrage hypothesis was confirmed with mean moral outrage scores for the taboo trade-offs being significantly higher than mean moral outrage scores for routine trade-offs. No support was found for the moral cleansing hypothesis and this was consistent with Tetlock et al. (2000) who also did not find a main effect for moral cleansing. However, significant effects were found for some of the subgroups in Tetlock's sample. Taken together these results raise questions about the single-item scale used to measure moral cleansing. Recently Stikvoort et al. (2016) used a different way of measuring moral cleansing based on a combination of hypothetical and real donation behaviour and found that exposure to taboo trade-offs affected real but not hypothetical moral cleansing behaviour. Tetlock's measure is a hypothetical measure and this may account for difficulties in finding significant effects. Most interestingly, Study 1 did not find support for the reality-constraint hypothesis, in fact, it found that exposure to tragic reframing information rather than resulting in a significant decline in moral outrage actually resulted in a significant increase.

Study 1 also provided some insight for the first time into which components of the moral outrage index drive changes in moral outrage. Specifically, it was found that both the affective and cognitive components were responsible for the change, with the affective component being the primary driver. This finding is consistent with recent developments in the study of moral judgement that assign a primary role to affect and more secondary role to cognition (Greene, 2008; Greene & Haidt, 2002; Haidt, 2001). The fact that significant change was not reported for the behavioural component added to concerns over the moral cleansing measure because the behavioural component is also measuring hypothetical behaviour.

Given that there has been little follow-up work done by Tetlock or other researchers, it is hard to know how sensitive the moral outrage scale is to measuring changes in reactions to taboo trade-offs following exposure to policy review information. Indeed, it was not clear whether Tetlock (2000) used a yes/no scale or the moral outrage index to assess people's reactions to the policy revision information when testing the reality-constraint hypothesis. Despite this, the moral outrage measure was used in Study 1 because it represented the measure most consistent with the proposition being tested. While Tetlock's SVPM remains the most theoretically developed approach to sacred values, the measures associated with it require further testing. Interestingly, Study 2 used a single-item moral acceptability scale and it was able to effectively distinguish between routine and taboo trade-offs and also to effectively measure changes in moral reactions to taboo trade-offs following exposure to policy information. These results showed indirect support for the key propositions of the SVPM related to moral outrage and reality-constraints but ultimately the single-item measure is a poor proxy for the concept of moral outrage. It should be noted that the single-item moral acceptability measure was used in Study 2 to facilitate comparisons with findings from Study 3, which manipulated the time participants had available to them for a moral judgement rendering a 13-item measure inappropriate.

6.2. Decision Scenarios for Taboo Trade-offs Involving Market Exchange

The failure to find support for the SVPM's reality-constraint hypothesis in Study 1 led to consideration of the decision scenarios used. Over the last ten to fifteen years moral dilemmas based on variants of the two main trolley problems – the bystander/footbridge case and the switch case – have dominated moral psychology (Thompson, 1985; Greene et al 2001; Greene et al. 2008; Bartels, 2008). They have also fuelled much debate about what these dilemmas can actually tell us about moral judgement (Bauman et al., 2014; Kahane, 2015). These moral dilemmas almost always involve an action that results in the loss of one life but saves many, typically five. This type of moral dilemma has little connection with taboo trade-offs involving market exchanges. However, two issues associated with studying trolley-type problems in the laboratory, the counting problem (Mallon & Nichols, 2011) and closed world assumptions (Bennis et al., 2010) proved fruitful in thinking through what role the decision contexts used Study 1 may have played in the findings.. The counting problem refers to the incidence in the real world of the moral dilemmas studied in the laboratory and the issue of closed world assumptions refers to the idea that the dilemma as described in the experiment "is accepted as stated, as complete and accurate with no other considerations or interpretations introduced" (Bennis et al., p. 188).

Of the four taboo trade-offs it was decided that the body organ market dealt with the counting problem best because it had the greatest currency in society. As discussed in the introduction to Study 2 the issue of the shortage of body organs for medical transplant was frequently mentioned in the media. Furthermore, of all the body organs for which there is a shortage, kidneys are the most prominent. In terms of the problems associated with the issue of closed world assumptions, media coverage of the shortage of body organs provided participants with lots of material to fuel the imaginative elaboration of the experimental stimuli. For example, the phenomena of national and international black markets for body

parts, transplant tourism and new and risky medical procedures to recycle diseased organs were all covered in the Australian media (see the Introduction to Study 2 for further discussion). Therefore, it was decided that the best way to "close the world" was to make the decision scenario more like the real world. Thus, for Study 2 and Study 3 participants were exposed to data for Australia and/or the United States, albeit disguised by different names. The data included information on the extent of the kidney shortage, annual deaths on waiting lists and information about the ability to live with only one kidney. Additional information was given about whether the market was national or international, legal or illegal and whether it was a market for kidneys from living or deceased people. Finally, manipulation checks were introduced to determine, as much as possible, whether participants understood the stimuli and accepted it as valid.

Another contribution of the thesis to the development of decision scenarios was to adapt the policy condition manipulation introduced by Sacchi et al. (2014) for use in a different sacred value domain. To elaborate, Sacchi et al. introduced the policy manipulation in the context of examining market-based solutions to environmental problems, specifically climate change. By contrast, Study 2 adapted this manipulation to examine market-based solutions to the kidney shortage that involve commodification of people and their bodies. They argued that the positive policy manipulation allowed the creation of a win-win taboo trade-off in which permitting commodification of the environment through a cap-and-trade emissions program not only generated economic benefits, but also generated environmental benefits and health benefits for people. By contrast, the negative policy manipulation involved the commodification of nature through a cap-and-trade scheme that generated economic benefits but no environmental or human health benefits. At the close of Sacchi et al. they called for the application of this policy manipulation to other domains typically associated with sacred values. The policy manipulation condition is perfectly suited to examining the moral limits of markets because it facilitates the deployment of two key arguments for and

against the use of markets. One argument connected directly with Titmuss (1971) but also incorporated into the approaches of Radin (1996), Sandel (2012), and Satz (2010) is the idea that market exchange fundamentally alters the object or activity involved in the exchange in such a way, that allowing the market to operate does not generate the desired benefits. The other key argument proposes the opposite effect and states that permitting the market does not fundamentally alter the object or thing exchanged and thus is capable of generating additional benefits (Arrow, 1972; Sandel, 2012). Study 2 provided evidence that this policy manipulation can be usefully applied beyond the domain of the environment.

Given the relative scarcity of studies examining taboo trade-offs directly to linked to actual or proposed market exchanges an important contribution of the thesis is to provide support for the development of realistic and information rich decision scenarios and for the application of policy condition information that is able to capture key arguments in the debate about commodification and marketization.

The incorporation of more realistic decision scenarios and the positive/negative policy manipulation generated a set of results that supported Tetlock et al.'s (2000) reality-constraint hypothesis. In addition, at the same time as these decision scenarios were being developed, Elias, Lacetera and Macis (2015) were going one step further and constructing experimental stimuli that involved detailed information about the kidney shortage in the U.S. including the size and length of the waiting list, donation rates, and also possible solutions to the problem including pairwise exchange data and estimates of the market price for kidneys to resolve the shortage. They also did not disguise the country the data related to and also referenced all the sources of the data for participants. Interestingly, both Elias et al. (2015) and Study 2 found the impact of exposing participants to this kind of stimulus material resulted in the moral acceptability of kidney markets increasing. Moreover, the magnitude of the effect on moral acceptability was broadly the same. Finally, the robustness of the findings was increased

because Elias et al. (2015) found this effect using a between-subjects test while Study 2 used a repeated-measures test.

6.3. Sacred Values

The thesis has contributed to the study of sacred values by utilizing in Study 1 the sacred value measure developed by Tanner et al. (2009). This measure has now been used in small number of studies (Duc, et al. 2013; Hanselmann & Tanner, 2008; Tanner et al. 2008) andStudy 1 provided more evidence that this measure can reliably distinguish between value trade-offs which are associated with sacred values and those which are not.

The thesis has also found that endorsement rates of sacred values linked to commodification of the human being can vary greatly. For example, in Study 2 only 25% participants endorsed a sacred value proscribing body organ markets for medical transplantation. By contrast, in Study 3 Experiment 1, 75% and in Experiment 2, 60% of participants endorsed a sacred value proscribing treating people as commodities. This suggests that rates of endorsement for this sacred domain are quite sensitive to how the domain is explored.

One consistent finding about sacred values is that they are the basis on which initial judgements about routine and taboo trade-offs differ. Beyond this their effects on moral judgements have been difficult to predict in Study 2 and difficult to find in Study3. In addition, their relationship to deontological and consequentialist orientation scores has been difficult to clearly establish. One possible reason for this relates to the population being sampled in these studies and this points to more broadly to an important issue. When sacred values scores and moral judgement scores about taboo trade-offs related to commodification of people are examined for the student populations sampled in this thesis, rarely is it the case that the scores represent something strongly trade-off resistant or extremely sacred. Consequently, as Lichtenstein et al.(2007) pointed out such “endorsements of general

statements are just that: broad expressions of ethical belief, lacking predictive ability for specific decisions" (p. 183).. In other words, in these populations endorsing a sacred value seem to function as an important reference point or boundary marker in the moral landscape. However, as individuals move through the moral terrain they feel relatively free to either follow the logical implications of their sacred value endorsement or reduce the influence of the sacred value depending on the situation they confront. The results of this thesis dovetail well with recent findings about the concept of moral flexibility. Bartels et al. (2016) proposed that moral flexibility refers to how people are "strongly motivated to adhere to and affirm their moral beliefs in their judgements and their choices … but context strongly influences which moral beliefs are brought to bear in a given situation" (Bartels et al., 2015, p. 479). From this perspective, "small variations in context across situations can tip the balance between competing moral forces and lead to principle inconsistent decisions" (Bartels et al., 2015, p. 478). . The findings of the thesis also highlight that studying sacred values using samples of university students in Australia will lead to a very different understanding of the role sacred values play in moral judgement, than is derived from studying devoted actors as Atran, Ginges and colleagues have done (Atran & Ginges, 2009; Atran et al., 2007).

6.4. Consequentialist Thinking and System 1 Processing

Study 3 examined whether manipulating time pressure could increase the moral acceptability of market-based solutions to the kidney shortage for medical transplants. In Experiment 2 there was no significant difference in the proportion of acceptable versus unacceptable responses between the no time-delay group and the time-delay group. In both groups the dominant response was "yes" to live kidney markets. Among those that responded "no", mean deontological scores were no different than mean consequentialist scores. By contrast, among those that responded "yes", mean consequentialist scores were significantly greater than mean deontological scores and this difference was found in both the time delay

group and the no time-delay group. This result is interesting because it is at odds with Greene's (2008, 2013) dual process model of moral judgement and moral reasoning. According to this model, S2 processing is a more effortful and controlled cognitive process and when moral judgements are made using S2 they are usually consistent with consequentialist reasoning. By contrast, S1 processing is a more automatic, fast, affect-laden process and moral judgements made using S1 processing are based on moral intuitions that are typically non-utilitarian in nature. Therefore, the results for the no time-delay group in which participants had to make moral judgements within 8secs are not easily explained by Greene's theory. Greene et al. (2008) acknowledged a similar difficulty with the model when under the no cognitive load condition there was no difference in reaction times between participants that made a utilitarian judgement and those that made a non-utilitarian judgement, and also when the proportion of utilitarian judgements did not vary with load. This was problematic because the prediction of the model was that non-utilitarian judgements should be faster under no load and the proportion of utilitarian judgements should decline under load. The findings of Experiment 2 can be dismissed as an unreliable post hoc rationalization of a moral judgement. However, these results raise similar issues to those raised in Greene et al. that are based on neuroimaging data. Greene et al. (2008) indicated that findings such as these may "require a significant expansion and or modification of our dual-process theory" (p. 1152). In addition, other researchers have begun to question just what Greene's model is saying about the nature of S1 and S2 processing and their relationship to deontological and utilitarian judgements (Kahane, 2012; Kahane &Shackel, 2010). Therefore, taken together these results indicated that consequentialist thinking is far more a feature of S1 processing than is articulated by the model and this can be regarded as an interesting if tangential contribution of the thesis.

6.5. Public Policy Implications

The thesis has shown that a framework informed by the work of Tetlock and colleagues (Tetlock, 2000; Tetlock et al., 2000) and Baron and colleagues (Baron & Leshner, 2000; Baron & Spranca, 1997) can effectively explore major social problems that are currently being contested at the boundary between the non-market and market realms of society. The current kidney shortage represents both a serious public health problem and a moral dilemma that most societies have traditionally attempted to solve within the non-market realm, through a system based on altruistic giving. However, this system has so far not resolved the shortage. In an effort to increase altruistic donation, proponents have pointed to the need for countries move away from opt-in models based on a default position of non-donation by citizens, to opt-out models based on a default position of donation (Kennedy et al., 1998). However, Coppen, Friele, Marquet and Gevers (2005) has shown that this will not necessarily increase donation rates. In addition, pairwise kidney exchange programs are beginning in more countries, including Australia, yet so far the increases in transplants have been modest (Ferrari, Woodroffe & Christiansen, 2009). Consequently, pressure is beginning to build in many societies to allow market-based solutions to operate alongside the altruistic system to solve the problem. However, in nearly all countries, including Australia and the U.S., the buying and selling of kidneys for medical transplant is illegal.

Study 2 and Study 3 focused on the moral acceptability of market-based solutions to the kidney shortage for medical transplants. The experimental framework utilized here has provided insight into where the moral limit lies in this debate and how amenable people are to revising this limit. The framework can also be used to test what type of market-based solution is more morally acceptable because there are a number of possibilities. One option is to allow a free market with very little regulation except for conditions such as, cooling-off periods before contracts are settled, especially in the case of live kidney contracts. Another option is

to allow a futures market for cadaver organs to operate in which insurance companies play a crucial role in setting the price for organs and the main compensation received by sellers comes in the form of reduced annual health insurance premiums while they are alive (Hansmann, 1989). Alternatively, a monopsony market could operate with the government acting as the sole buyer of kidneys and it would then distribute the kidneys according to need (Harris & Erin, 2002). Recently Held, McCormick, Ojo and Roberts (2016) conducted a detailed cost-benefit analysis of a proposed monopsony market in the U.S. in which the government, acting as the sole buyer, would purchase kidneys off living donors for US$45,000, and off deceased donors for US$10,000 per kidney. It was estimated that at these prices the market would eliminate the kidney shortage in the U.S. (Held, et al., 2016). These options can be explored by future studies. In addition, more detailed analysis of the Iranian kidney market, that is the only legal kidney market in the world, can shed light on the way governments, civil society organizations and markets are able to work together to increase live kidney transplants (Fry-Revere, 2014). These are important issues because research has shown that in the United States a system based on altruistic donation of cadaver organs will not be able to eliminate the kidney shortage (Becker & Elias, 2007). Finally, it should be mentioned that results such as those found for Study 2, in no way imply that a market-based solution should be implemented.

6.6. Limitations of the Thesis

One limitation of the thesis is the time manipulation used in Study 3. On the one hand it can be argued that the decision scenarios used were not personal high-conflict moral dilemmas, which out of the three types of moral dilemmas examined by Suter and Hertwig, (2011) were the only ones for which a time effect was found. However, the moral dilemmas used in Suter and Hertwig (2011) were based on trolley problems, which can be argued to have little direct similarity with taboo trade-offs involving market exchanges. In addition,

Study 2 found that these kinds of decision scenarios were effective in producing differential effects on judgements of moral acceptability. Therefore, it seemed that it was reasonable to use these scenarios, however, it is possible that better designed decision scenarios could have generated different results. For example, scenarios that are more emotionally evocative are more likely to have elicited the differences in moral judgements associated with S1 and S2 processing. Given these considerations, the question of whether manipulating time has a significant impact on the moral acceptability of taboo and tragic trade-offs has not been definitively answered, despite the results of Experiment 1 and 2 in Study 3.

Another limitation has been discussed above and this relates to using samples of University students to study phenomena like sacred values and taboo trade-offs. Tetlock et al. (2000) emphasized that sacred values have their strongest effects within specific moral communities and this is why research on devoted actors by Ginges, Atran and colleagues has tended to generate very clear results (Ginges & Atran, 2009; Ginges etal., 2007). Despite this, there is still much that can learned about how sacred values impact on moral judgements by comparing results about endorsements of sacred values and moral judgements between these quite different populations.

The ecological validity of the findings of the thesis could also be called into question given the measures of sacred values and moral judgement the thesis has relied on. Despite different measures of moral judgement and sacred values being used they are all explicit self-report measures. While these types of measures have tended to be the most commonly used and discussed in research on moral judgement and reasoning (Bartels, et al., 2015), research over the last two decades on social cognition has revealed that people's implicit attitudes can be different from their explicitly stated attitudes (Greenwald & Banaji, 1995). Greene and Haidt (2002) have argued that most moral judgements in everyday life are based on automatically generated moral intuitions. Consequently, this raises the possibility that moral

judgements about market exchanges can be thought of as similar to implicit attitudes and could be studied using techniques developed to explore implicit attitudes (Paxton and Greene, 2010). The results of such research could clarify the findings of the thesis.

6.7. Implications for Future Research

Valuable insight would be provided if a future study revisited the SVPM and tested its three key propositions regarding moral outrage, moral cleansing and reality-constraints utilizing both the policy manipulation strategy adopted in Study 2 from Sacchi et al. (2014) and similar decision scenarios to those developed in Study 2. In particular, such a study would provide valuable insight into whether the moral outrage and moral cleansing measures put forward by Tetlock et al. (2000) can be continued with in their current form or require modification. Positive results from such a study would reinvigorate the most sophisticated model of sacred values available.

After Study 1 the effectiveness of routine reframing strategies was not examined and future studies could explore this issue further, especially considering how important notions of fairness and harm are in Western societies (Haidt, 2012).

In Study 1 different moral reactions were found for taboo trade-offs associated with different sacralised values. In particular, there was a clear difference between moral reactions to taboo trade-offs that tapped into sacred values associated with civic duties and responsibilities and those typically associated with the treating people as commodities. This finding indicated that future research should be careful about indiscriminately grouping different types of trade-offs together when analysing the trade-off resistance of sacred values. Sacchi et al. have already called for research in other areas typically associated with sacralised values such as human life and human rights to be undertaken to allow comparison with their findings about the environment. Indeed, Study 2 and Study 3 were undertaken to shed light on

a particular type of taboo trade-off traditionally associated with strong moral repugnance because it involves treating humans as commodities (Roth, 2007).

6.8. Conclusion

The thesis has shown that taboo trade-offs function as boundary markers between the non-market and market realms within a society and has also demonstrated that sacred values underpin the moral reactions associated with taboo trade-offs. The thesis also explored the flexibility of the boundary that exists between non-market and market realms and has shown it to be quite context-sensitive. Overall, the thesis has demonstrated that the field of psychology is well-placed to both theoretically enrich theories about the moral limits of markets from the other social sciences and to provide empirical frameworks and strategies through which insights can be gained into important social problems currently being contested at the boundary between the sacred and the secular and the non-market and the market.

CHAPTER 7

APPENDICES

7.1 Appendix A

7.1.1. The Sacred Value Measure (SVM)

The SVM was developed by Tanner, Ryf and Hanselmann (2009). The SVM consists of 5 items that participants are asked to respond to using a 7-point scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*.

Specifically, the items are:

The argument is that a particular action, object, idea, or value trade-off is something

1. …that we should not sacrifice, no matter what the benefits (money or something else).
2. …which one cannot quantify with money.
3. …for which I think it is right to make a cost-benefit analysis.
4. …for which I can be flexible if the situation demands it.
5. …that involves issues or values which are inviolable.

7.1.2. Decision Difficulty Scale

The decision difficulty scale is a 5-item measure first used by Hanselmann and Tanner (2008). Each item is scored on a 7-point scale ranging from 1 = *strongly disagree* to 7 = *strongly agree* except for item 1 which is scored on a scale that ranges from 1 = *very easy* to 7 = *very difficult*. The items are:

1. For me this decision is. (1 = *very easy* to 7 = *very difficult*)
2. I would need more time to decide
3. I would not ponder for a long time on this decision.
4. I feel very ambivalent about this decision.
5. For this decision, I feel certain which item to choose.

7.1.3. Policy Revision Information

The complete version of the policy revision information used in Study 1 for the taboo trade-off concerning body organs is provided in Chapter 2. The full versions of the policy revision information for the other three taboo trade-offs are provided below:

2. Market transaction: Paying for the right to adopt a baby or a child in need of parents

Participants in all three re-framing conditions were exposed to the following information:

> It is well known that there is a long queue of prospective parents waiting to adopt babies and children in need of parents. Consequently, there is also a long wait for these babies and children before they can become part of a family. An option for dealing with this problem is to allow a national market to operate for the buying and selling of adoption rights for babies and children in need of parents. Objections to a national market operating tend to focus on concerns that unsuitable people could bid, that only attractive and/or healthy babies and children would draw bids and that the price of babies and children would quickly become unaffordable for the poor.

Participants in the routine re-framing condition were exposed to this additional information:

> In the light of the above objections and concerns would you still object to a market for adoption rights if: (1) it was guaranteed that only suitably qualified parents/people were permitted to bid for adoption rights; (2) it was guaranteed that money raised through the auction would be used to encourage parents to adopt less attractive and less healthy babies and children as well as to improve the conditions of institutionalised life for these babies and children; (3) it was guaranteed that poor people would be assisted to bid for adoption rights through a generous voucher scheme, so that they would be more able to compete with more affluent would-be adopters.

Participants in the tragic re-framing condition were exposed to this additional information:

> In the light of the above objections and concerns would you still object to a market for adoption rights if it could be shown that all other methods of reducing the long time period babies and children have to wait before they can become part of a family were not as effective as implementing a market for adoption rights.

Participants in the combined routine and tragic reframing condition were exposed to this additional information:

> In the light of the above objections and concerns would you still object to a market for adoption rights if: (1) it was guaranteed that only suitably qualified parents/people were permitted to bid for adoption rights; (2) it was guaranteed that money raised through the auction would be used to encourage parents to adopt less attractive and less healthy babies and children as well as to improve the conditions of institutionalised life for these babies and children; (3) it was guaranteed that poor people would be assisted to bid for adoption rights through a generous voucher scheme, so that they would be more able to compete with more affluent would-be adopters; (4) if it could be shown that all other methods of reducing the long time period babies and children have to wait before they can become part of a family were not as effective as implementing a market for adoption rights.

3. Market transaction: Paying someone to perform your jury service obligation

Participants in all three re-framing conditions were exposed to the following information:

> It is well known that people are becoming increasingly reluctant to perform their jury service obligations. Consequently, court cases are delayed and often heard before juries that are neither fully motivated nor committed. An option for securing a pool of motivated and committed jurors is to allow a market to operate for the buying and

selling of jury service obligations. Objections to a national market for the buying and selling of jury service obligations tend to focus on jury service being an important form of civic duty. Being a member of society confers both rights and responsibilities. One responsibility is to perform your civic duties, such as jury service, when called upon. Permitting people to sell their jury service obligation diminishes the importance of civic duty. In addition, the law exists to protect the people who live in society and accused law breakers appear in court to be judged by representative members of society. Moreover, people's acceptance of the jury's verdict increases when the jury is seen to be truly representative of society. Allowing people to sell their jury service obligations increases the risk that the jury chosen for a trial will not be chosen from a representative sample of society. In particular, people with relatively high-paying jobs will be more likely to be able to pay to have someone perform jury service on their behalf.

Participants in the routine re-framing condition were exposed to this additional information:

In the light of the above objections and concerns, would you still object to a market for jury service obligations if: (1) it be a requirement that a person can only sell their obligation on the condition that they contribute one weekend of their choosing within two months of selling their jury service obligation to unpaid community service activities, such as cleaning up the harbour and assisting in caring for the elderly and disabled; (2) it be a requirement that a person can only sell their obligation on the condition that they sell it to someone of the same gender and from the same occupation, which would help ensure that that juries continue to be representative of society.

Participants in the tragic re-framing condition were exposed to this additional information:

> In the light of the above objections and concerns, would you still object to a market for jury service obligations if you were informed that it could be shown that all other methods of securing a pool of motivated and committed jurors necessary to maintain the integrity of the "trial by jury" system were not as effective as implementing a market for jury service obligations.

Participants in the combined routine and tragic reframing condition were exposed to this additional information:

> In the light of the above objections and concerns, would you still object to a market for jury service obligations if: (1) it be a requirement that a person can only sell their obligation on the condition that they contribute one weekend of their choosing within two months of selling their jury service obligation to unpaid community service activities, such as cleaning up the harbour and assisting in caring for the elderly and disabled; (2) it be a requirement that a person can only sell their obligation on the condition that they sell it to someone of the same gender and from the same occupation, which would help ensure that that juries continue to be representative of society; (3) you were informed that it could be shown that all other methods of securing a pool of motivated and committed jurors necessary to maintain the integrity of the "trial by jury" system were not as effective as implementing a market for jury service obligations.

4. Market transaction: Paying someone for their right to vote in a political election / buying and selling of voting rights in political elections

Participants in all three re-framing conditions were exposed to the following information:

> It is well known that democracy is based on the ideal of "one person, one vote" yet this ideal is undermined by regular revelations of "behind closed doors" buying and selling of political influence by business groups and politicians. An option for maintaining the integrity of a democracy by making transparent the process by which political influence is secured while simultaneously ensuring this process is more citizen driven is to allow a market to operate in which a citizen's right to vote could be bought and sold. Objections to a national market for the buying and selling of voting rights in political elections tend to focus on the argument that elected officials represent the interests of people who live in their electorate. If votes could be bought and sold nationally then people not living in the electorate could vote in the electorate and this would diminish the idea that elected officials are representing the people in their electorate. In addition, people who currently are not actively interested in politics could sell their right to vote and at a later date want to vote, but not be able to avoid to buy back the right to vote. A final concern is that rich people will be more likely to buy the voting rights of other people and the poor more likely to sell their voting rights, resulting in the concerns of the poor not being well represented at election time.

Participants in the routine re-framing condition were exposed to this additional information:

> Would you still object to a national market for the buying and selling of voting rights in political elections if: (1) for any particular election people could only sell their voting rights to someone else also living in their electorate; (2) people could only sell their right to vote for one election at a time, eliminating the risk that they will lose their right to vote forever (3) there is a cap put on the votes that any one person can purchase equal to 1% of the total number of voters in an electorate.

Participants in the tragic re-framing condition were exposed to this additional information:

> Would you still object to a national market for the buying and selling of voting rights in political elections if you were informed that it could be shown that all other strategies for improving the integrity of a democracy were not as effective as implementing a market for voting rights.

Participants in the combined routine and tragic reframing condition were exposed to this additional information:

> Would you still object to a national market for the buying and selling of voting rights in political elections if: (1) for any particular election people could only sell their voting rights to someone else also living in their electorate; (2) people could only sell their right to vote for one election at a time, eliminating the risk that they will lose their right to vote forever (3) there is a cap put on the votes that any one person can purchase equal to 1% of the total number of voters in an electorate; (4) you were informed that it could be shown that all other strategies for improving the integrity of a democracy were not as effective as implementing a market for voting rights.

7.1.4. Major Cities Information for the Control Group

Information about the three other major cities that participants in the control group were exposed to instead of policy revision information is shown below. The information for all the cities, including Barcelona, was retrieved and adapted from Wikipedia entries for each of the cities in 2010:

> **Madrid**
>
> Madrid is located on the river Manzanares in the centre of both the country and the Community of Madrid (which comprises the city of Madrid, its conurbation and extended suburbs and villages); this community is bordered by the autonomous

communities of Castile and León and Castile-La Mancha. As the capital city of Spain, seat of government, and residence of the Spanish monarch, Madrid is also the political centre of Spain. The current mayor is Alberto Ruiz-Gallardón from the People's Party (PP). He has been in office since 2003, when he left the Presidency of the Autonomous Community of Madrid and stood as the candidate to replace outgoing mayor José María Álvarez del Manzano, also from the PP. In the last local elections of 2007, Ruiz-Gallardón increased the PP majority in the City Council to 34 seats out of 57, taking 55.5% of the popular vote and winning in all but two districts. Due to its economic output, standard of living, and market size, Madrid is considered the major financial centre of the Iberian Peninsula; it hosts the head offices of the vast majority of the major Spanish companies, as well as the headquarters of three of the world's 100 largest companies (Telefónica, Repsol-YPF, Banco Santander). Furthermore, Madrid was ranked in drawn 10th place with Hong Kong for the world's most powerful cities, featuring in the top 20 cities for 5 out of the 6 categories considered.

While Madrid possesses a modern infrastructure, it has preserved the look and feel of many of its historic neighbourhoods and streets. Its landmarks include the huge Royal Palace of Madrid; the Teatro Real (Royal theatre) with its restored 1850 Opera House; the Buen Retiro park, founded in 1631; the imposing 19th-century National Library building (founded in 1712) containing some of Spain's historical archives; an archaeological museum; and three superb art museums: Prado Museum, which hosts one of the finest art collections in the world, the Museo Nacional Centro de Arte Reina Sofía, a museum of modern art, and the Thyssen-Bornemisza Museum, housed in the renovated Villahermosa Palace.

Chicago

Chicago is the largest city in Illinois, and the third most populous city in the United States, with over 2.8 million people living within city limits. Its metropolitan area, commonly named "Chicagoland", is the 26th largest metropolitan area in the world, home to an estimated 9.7 million people spread across the states of Wisconsin, Illinois, and Indiana. The city of Chicago and most of its surrounding suburbs are located in Cook County, with the exception of the southwestern sector of O'Hare International Airport, which is located in DuPage County. Chicago was founded in 1833, near a portage between the Great Lakes and the Mississippi River watershed. The Potawatomi were forcibly removed from their land following the Treaty of Chicago. The city became a major transportation and telecommunications hub in North America. Today, the city retains its status as a major hub, both for industry and infrastructure, with Chicago-O'Hare International Airport as the second busiest airport in the world. In 2007, the city attracted 32.8 million domestic visitors and about 1.15 million foreign visitors.

In modern times, the city has taken on an additional dimension as a center for business and finance and is listed as one of the world's top ten Global Financial Centers. Chicago is a stronghold of the Democratic Party and has been home to influential politicians, including the current President of the United States, Barack Obama. The World Cities Study Group at Loughborough University rated Chicago as an "alpha world city" due to Chicago's important role in the global economic system. Globally recognized, Chicago has numerous nicknames, which reflect the impressions and opinions about historical and contemporary Chicago. The best known include: "Chi-town", "Windy City", "Second City", and the "City of Big Shoulders". Chicago has also been called "the most American of big cities".

San Francisco

The City and County of San Francisco is the fourth most populous city in California and the 12th most populous city in the United States, with a 2008 estimated population of 808,977. The only consolidated city-county in California, it encompasses a land area of 46.7 square miles (121 km^2) on the northern end of the San Francisco Peninsula, making it the second-most densely populated large city (greater than 200,000 population) in the United States. San Francisco is also the financial, cultural, and transportation center of the larger San Francisco Bay Area, a region of 7.4 million people. In 1776, the Spanish established a fort at the Golden Gate and a mission named for Francis of Assisi on the site. The California Gold Rush in 1848 propelled the city into a period of rapid growth, increasing the population in one year from 1,000 to 25,000,[1] and thus transforming it into the largest city on the West Coast at the time. After three-quarters of the city was destroyed by the 1906 earthquake and fire, San Francisco was quickly rebuilt, hosting the Panama-Pacific International Exposition nine years later. During World War II, San Francisco was the port of embarkation for service members shipping out to the Pacific Theater. After the war, the confluence of returning servicemen, massive immigration, liberalizing attitudes, and other factors led to the Summer of Love and the gay rights movement, cementing San Francisco as a center of liberal activism in the United States.

Today, San Francisco is a popular international tourist destination, renowned for its chilly summer fog, steep rolling hills, eclectic mix of Victorian and modern architecture and its famous landmarks, including the Golden Gate Bridge, cable cars, and Chinatown. The city is also a principal banking and finance center, and the home of over 30 international financial institutions, helping to make San Francisco

eighteenth place in the world's top producing cities, ninth in the United States, and is fifteenth place in the top twenty Global Financial Centers.

7.2. Appendix B

7.2.1. Trade-off Scenarios:

There are three trade-off scenarios that participants make moral judgements about using a 7-point scale ranging from 1 = completely unacceptable to 7 = completely acceptable (4 = *neutral*). The three scenarios are:

Transaction 1 (For Treatment Groups 1-6)

Allowing people in Cobbleton to exchange money for food.

Transaction 2 (For Treatment Groups 1-2)

Allowing people in Cobbleton to exchange money for the kidney of a deceased person for the purposes of medical transplantation.

or

Transaction 2 (For Treatment Groups 3-6)

Allowing people in Cobbleton to exchange money for the kidney of a living person for the purposes of medical transplantation.

Transaction 3 (For Treatment Groups 1-6)

Allowing people in Cobbleton to exchange money for a mobile phone.

7.2.2. Trade-off Scenarios and Policy Condition Information

Treatment group 1: Low tragic reframing strength, positive policy and cadaver market

Scenario:

In Cobbleton today, nearly 1,100 people are waiting for a kidney transplant.

Currently, kidneys for medical transplant are donated by people after they have died and by people that are still alive. Live donation is possible because people are born with two kidneys but can lead a normal active life with only one kidney.

According to the Kidney Foundation of Cobbleton under the current system of voluntary donation, the annual number of kidneys donated after death will never match the annual number of people requiring a kidney transplant. Therefore, other systems for increasing the supply of kidneys for medical transplantation need to be considered.

One way of bridging gap between the number of kidneys available and number required for transplant is by increasing the supply of kidneys provided by people after death.

At present in Cobbleton it is illegal to buy and sell kidneys for medical transplant or any other purpose. One way to increase the supply of kidneys is to allow a legal national market for kidneys from deceased people for medical transplantation to operate. In such a market the kidneys of deceased people would be exchanged between sellers and buyers at an agreed market price. Exchanges would be arranged while the seller was alive and completed when the seller dies on the condition that the kidney is still suitable for transplantation. The proceeds of the kidney sales would be transferred to the deceased person's estate and distributed according to their wishes.

The Kidney Foundation of Cobbleton commissioned a study by a team of economists and public health experts to examine the impact of the proposed national legal market for kidneys from deceased people on the number of kidneys available for medical transplants. The study has just been released and its conclusion is that because of the financial incentives to supply provided by the market, many people who previously would not donate a kidney will now sell one, and the total number of kidneys supplied by deceased people for transplantation will increase, resulting in hundreds of additional transplants over the next 10 years.

Treatment group 2: Low tragic reframing strength, negative policy and cadaver market

Scenario:

In Cobbleton today, nearly 1,100 people are waiting for a kidney transplant.

Currently, kidneys for medical transplant are donated by people after they have died and by people that are still alive. Live donation is possible because people are born with two kidneys but can lead a normal active life with only one kidney.

According to the Kidney Foundation of Cobbleton under the current system of voluntary donation, the annual number of kidneys donated after death will never match the annual number of people requiring a kidney transplant. Therefore, other systems for increasing the supply of kidneys for medical transplantation need to be considered.

One way of bridging gap between the number of kidneys available and number required for transplant is by increasing the supply of kidneys provided by people after death.

At present in Cobbleton it is illegal to buy and sell kidneys for medical transplant or any other purpose. One way to increase the supply of kidneys is to allow a legal national market for kidneys from deceased people for medical transplantation to operate. In such a market the kidneys of deceased people would be exchanged between sellers and buyers at an agreed market price. Exchanges would be arranged while the seller was alive and completed when the seller dies on the condition that the kidney is still suitable for transplantation. The proceeds of the kidney sales would be transferred to the deceased person's estate and distributed according to their wishes.

The Kidney Foundation of Cobbleton commissioned a study by a team of economists and public health experts to examine the impact of the proposed national legal market for live kidneys on the number of kidneys available for medical transplants. The study has just been released and its conclusion is that because of the financial incentives to supply provided by

the market, many people who previously would have donated a kidney will now sell one, leaving the total number of kidneys supplied by deceased people for transplantation each year unchanged.

Treatment group 3: Low tragic reframing strength, positive policy and live market

Scenario:

In Cobbleton today, nearly 1,100 people are waiting for a kidney transplant.

Currently, kidneys for medical transplant are donated by people after they have died and by people that are still alive. Live donation is possible because people are born with two kidneys but can lead a normal active life with only one kidney.

According to the Kidney Foundation of Cobbleton under the current system of voluntary donation, the annual number of kidneys donated after death will never match the annual number of people requiring a kidney transplant. Therefore, other systems for increasing the supply of kidneys for medical transplantation need to be considered.

One way of bridging gap between the number of kidneys available and number required for transplant is by increasing the supply of kidneys provided by living persons.

At present in Cobbleton it is illegal to buy and sell kidneys for medical transplant or any other purpose. One way to increase the supply of kidneys provided by living persons is to allow a legal national market for kidneys for medical transplantation to operate in which kidneys would be exchanged between sellers and buyers at an agreed market price.

The Kidney Foundation of Cobbleton commissioned a study by a team of economists and public health experts to examine the impact of the proposed national legal market for live kidneys on the number of kidneys available for medical transplants. The study has just been released and its conclusion is that because of the financial incentives to supply provided by the market, many people who previously would not donate a kidney will now sell one, and the

total number of kidneys supplied by living people for transplantation will increase, resulting in hundreds of additional transplants over the next 10 years.

Treatment group 4: Low tragic reframing strength, negative policy and live market

Scenario:

In Cobbleton today, nearly 1,100 people are waiting for a kidney transplant.

Currently, kidneys for medical transplant are donated by people after they have died and by people that are still alive. Live donation is possible because people are born with two kidneys but can lead a normal active life with only one kidney.

According to the Kidney Foundation in Cobbleton under the current system of voluntary donation, the annual number of kidneys donated after death will never match the annual number of people requiring a kidney transplant. Therefore, other systems for increasing the supply of kidneys for medical transplantation need to be considered.

One way of bridging gap between the number of kidneys available and number required for transplant is by increasing the supply of kidneys provided by living persons.

At present in Cobbleton it is illegal to buy and sell kidneys for medical transplant or any other purpose. One way to increase the supply of kidneys provided by living persons is to allow a legal national market for kidneys for medical transplantation to operate in which kidneys would be exchanged between sellers and buyers at an agreed market price.

The Kidney Foundation of Cobbleton commissioned a study by a team of economists and public health experts to examine the impact of the proposed national legal market for live kidneys on the number of kidneys available for medical transplants. The study has just been released and its conclusion is that because of the financial incentives to supply provided by the market, many people who previously would have donated a kidney will now sell one, leaving the total number of kidneys supplied by living people for transplantation unchanged.

Treatment group 5: High tragic reframing strength, positive policy and live market

Scenario:

In Cobbleton today, nearly 1,100 people are waiting for a kidney transplant. Furthermore, about 52 people per year die while on the waiting list and another 16 become too sick to be considered for a transplant.

Currently, kidneys for medical transplant are donated by people after they have died and by people that are still alive. Live donation is possible because people are born with two kidneys but can lead a normal active life with only one kidney.

According to the Kidney Foundation in Cobbleton under the current system of voluntary donation, the annual number of kidneys donated after death will never match the annual number of people requiring a kidney transplant. Therefore, other systems for increasing the supply of kidneys for medical transplantation need to be considered.

One way of bridging gap between the number of kidneys available and number required for transplant is by increasing the supply of kidneys provided by living persons.

At present in Cobbleton it is illegal to buy and sell kidneys for medical transplant or any other purpose. One way to increase the supply of kidneys provided by living persons is to allow a legal national market for kidneys for medical transplantation to operate in which kidneys would be exchanged between sellers and buyers at an agreed market price.

The Kidney Foundation of Cobbleton commissioned a study by a team of economists and public health experts to examine the impact of the proposed national legal market for live kidneys on the number of kidneys available for medical transplants. The study has just been released and its conclusion is that because of the financial incentives to supply provided by the market, many people who previously would not donate a kidney will now sell one, and the

total number of kidneys supplied by living people for transplantation will increase, resulting in hundreds of lives being saved over the next 10 years.

Treatment group 6: High tragic reframing strength, positive policy and live market

Scenario

In Cobbleton today, nearly 1,100 people are waiting for a kidney transplant. Furthermore, about 52 people per year die while on the waiting list and another 16 become too sick to be considered for a transplant.

Currently, kidneys for medical transplant are donated by people after they have died and by people that are still alive. Live donation is possible because people are born with two kidneys but can lead a normal active life with only one kidney.

According to the Kidney Foundation in Cobbleton under the current system of voluntary donation, the annual number of kidneys donated after death will never match the annual number of people requiring a kidney transplant. Therefore, other systems for increasing the supply of kidneys for medical transplantation need to be considered.

One way of bridging gap between the number of kidneys available and number required for transplant is by increasing the supply of kidneys provided by living persons.

At present in Cobbleton it is illegal to buy and sell kidneys for medical transplant or any other purpose. One way to increase the supply of kidneys provided by living persons is to allow a legal national market for kidneys for medical transplantation to operate in which kidneys would be exchanged between sellers and buyers at an agreed market price.

The Kidney Foundation of Cobbleton commissioned a study by a team of economists and public health experts to examine the impact of the proposed national legal market for live kidneys on the number of kidneys available for medical transplants. The study has just been released and its conclusion is that because of the financial incentives to supply provided by

the market, many people who previously would have donated a kidney will now sell one, leaving the total number of kidneys supplied by living people for transplantation unchanged.

7.2.3. Deontological and Consequentialist Orientation Scale (DCOS)

The DCOS has 8 items. The first 4 items are designed to tap deontological reasoning and the second 4 items are designed to tap consequentialist reasoning. Responses to each item are recorded on a 7 point scale ranging from 1= *absolutely* not to 7= *absolutely yes*. Participants are asked to respond to each items in terms of its relevance to the judgement made about the moral acceptability of allowing either a live or cadaver kidney market to operate in Cobbleton. The items are:

I chose this option:

Because it is consistent with the principles I have to follow:

Because I have a moral duty to behave that way:

Because some behaviours are definitely right or wrong, irrespective of the consequences:

Because the other option is morally forbidden:

Because cost-benefit analyses make sense of this topic:

Because this option can be justified by its consequences:

Because the outcomes of the chosen option produce the best net value:

Because the positive outcomes outweigh the negative consequences:

7.2.4. Decision Difficulty Scale

The decision difficulty scale is 5-item measure first used by Hanselmann and Tanner (2008). Each item is scored on a 7-point scale ranging from 1 = strongly disagree to 7 = strongly agree except for item 1 for which the scale ranges from 1 = *very easy* to 7 = *very difficult*. The items are:

For me this decision is. (1= *very easy* to 7 = *very difficult*)

I would need more time to decide

I would not ponder for a long time on this decision.

I feel very ambivalent about this decision.

For this decision, I feel certain which item to choose.

7.3. Appendix C

7.3.1. Experiment 1

7.3.1.1 Trade-off scenarios

The two trade-off dilemmas that each participant was exposed to were:

Cobbleton

In Cobbleton today, nearly 1,100 people are waiting for a kidney transplant. Furthermore, about 52 people per year die while on the waiting list and another 16 become too sick to be considered for a transplant.

Currently, kidneys for medical transplant are donated by people after they have died and by people that are still alive. Live donation is possible because people are born with two kidneys but can lead a normal active life with only one kidney.

According to the Kidney Foundation in Cobbleton the annual number of kidneys donated after death will never match the annual number of people requiring a kidney transplant. One way of bridging gap between the number of kidneys available and number required for transplant is by increasing the supply of kidneys provided by living persons.

At present in Cobbleton it is illegal to buy and sell kidneys for medical transplant or any other purpose. One way to increase the supply of kidneys provided by living persons is to allow a legal national market for kidneys for medical transplantation to operate in which kidneys would be exchanged between sellers and buyers at an agreed market price. The subsequent increase in the supply of kidneys by living persons will save the lives of hundreds of people in Cobbleton over the next 10 years.

Creanford

In Creanford today, nearly 105,000 people are waiting for a kidney transplant. Furthermore, about 5,000 people per year die while on the waiting list and another 1,500 become too sick to be considered for a transplant.

Currently, kidneys for medical transplant are donated by people after they have died and by people that are still alive. Live donation is possible because people are born with two kidneys but can lead a normal active life with only one kidney.

According to the Kidney Foundation in Creanford the annual number of kidneys donated after death will never match the annual number of people requiring a kidney transplant. Therefore, only by increasing the supply of kidneys provided by living persons can the difference between the number of kidneys available and the number needed be bridged.

At present in Creanford it is illegal to buy and sell kidneys for medical transplant or any other purpose. One way to increase the supply of kidneys provided by living persons is to allow a legal national market for kidneys for medical transplantation to operate in which kidneys would be exchanged between sellers and buyers at an agreed market price. The subsequent increase in the supply of kidneys by living persons will save the lives of tens of thousands of people in Creanford over the next 10 years.

7.3.1.2 Time delay

Participants were asked to judge the moral acceptability of the trade-off scenarios using a 7-point and were subject to either time-pressure (8 seconds) to make their judgement or no time-pressure. If in the no time pressure condition they were subject to different instructions. The instructions were as follows.

TG1 – You have 8 seconds to complete the following task.

TG2 – You have to complete the following task but you cannot give your response until 3 minutes have elapsed. Once you have completed the task click the next button below. Note once you have left this page it is not possible to come back and change your response.

TG3 – For 3 minutes think about the scenario you read about on the previous page and then answer the question below. It is not possible for you to provide your response until 3 minutes have elapsed. Note once you have left this page it is not possible to come back and change your response.

CG – You have 3 minutes to complete the 15 questions below. When 3 minutes have elapsed you will be forwarded to the next section automatically. Note once you have left this section it is not possible to come back and change your response.

7.3.1.3 Multiple choice questions

There were two sets of 15 multiple choice questions. In EG4 participants were given 3 minutes to answer the one set of multiple choice questions before completing the moral judgement task. Each participant answered a different set of questions for each scenario.

Set 1

1. The capital city of England is:

A) Manchester

B) Oxford

C) London

D) Liverpool

2. The current President of the United States of America is:

A) Bill Clinton

B) George Bush

C) Al Gore

D) Barack Obama

3. Christiano Ronaldo is a famous:

A) tennis player

B) footballer

C) singer

D) politician

4. Which city has the Seine River running through it?

A) Munich

B) Rome

C) Paris

D) Barcelona

5. The Amazon Forest is located in which continent?

A) North America

B) Africa

C) Asia

D) South America

6. Rafal Nadal is a famous:

A) footballer

B) actor

C) politician

D) tennis player

7. The Sahara Desert is located in which continent?

A) Africa

B) Asia

C) South America

D) Antarctica

8. The current Prime Minister of the United Kingdom is:

A) Gordon Brown

B) David Cameron

C) Tony Blair

D) Barack Obama

9. The capital city of Portugal is:

A) Porto

B) Biarritz

C) Madrid

D) Lisbon

10. The Tiber River runs through which city?

A) Brussels

B) Rome

C) Amsterdam

D) Helsinki

11. The *Mona Lisa* was painted by:

A. Vincent Van Gogh

B. Michelangelo

C. Caravaggio

D. Leonardo Da Vinci

12. The Elgin Marbles are housed in:

A. the British Museum

B. the Athens Museum

C. the Cairo Museum

D. the Bagdad Museum

13. The colours on the national flag of France are:

A. blue and red

B. green and red

C. green, white and red

D. blue, white and red

14. The top of Mount Everest is part of the border between which 2 countries?

A. China and Tibet

B. China and Nepal

C. Tibet and Nepal

D. Pakistan and Nepal

15. The 2014 Football World Cup will be hosted by which country?

A. Spain

B. South Africa

C. Brazil

D. Russia

Set 2

1. The capital city of Scotland is:

A) Manchester

B) Glasgow

C) Edinburgh

D) Perth

2. The current Vice President of the United States of America is:

A) Joe Biden

B) Hilary Clinton

C) Al Gore

D) Dick Cheney

3. Leonardo Messi is a famous:

A) tennis player

B) footballer

C) singer

D) politician

4. Which city has the Manzanares River running through it?

A) Munich

B) Madrid

C) Paris

D) Barcelona

5. The Victoria Falls is located in which continent?

A) North America

B) Africa

C) Asia

D) South America

6. Clint Eastwood is a famous:

A) footballer

B) actor

C) politician

D) tennis player

7. The Simpson Desert is located in which continent?

A) Africa

B) Asia

C) Australia

D) Antarctica

8. The first heir to the throne of England is:

A) Prince William

B) Prince Charles

C) Prince Harry

D) Prince Philip

9. The capital city of Spain is:

A) Barcelona

B) Seville

C) Madrid

D) Lisbon

10. The Thames River runs through which city?

A) Brussels

B) London

C) Amsterdam

D) Helsinki

11. The Scream was painted by:

A. Vincent Van Gogh

B. Michelangelo

C. Edvard Munch

D. Leonardo Da Vinci

12. The Rosetta Stone is housed in:

A. the British Museum

B. the Athens Museum

C. the Cairo Museum

D. the Baghdad Museum

13. The colours on the national flag of Italy are:

A. orange and white and green

B. green and red

C. green, white and red

D. blue, white and red

14. The top of Mont Blanc is part of the border between which 2 countries?

A. Germany and Italy

B. Germany and France

C. France and Italy

D. Italy and Austria

15. The 2018 Football World Cup will be hosted by which country?

A. Spain

B. South Africa

C. Brazil

D. Russia

7.3.1.4 The moral judgement task

The moral judgement scale instructions:

Using the scale below judge the moral acceptability of permitting a legal national market for kidneys from living persons to operate in Cobbleton/Creanford:

1	**2**	**3**	**4**	**5**	**6**	**7**
Completely Unacceptable			Neutral			Completely Acceptable

7.3.1.5 The moral reasoning task instructions

You have 2 minutes to describe in point form the reasons for your judgement. When 2 minutes have elapsed you will be forwarded to the next section automatically. Note once you have left this page it is not possible to come back and change your response.

The Instructions given to coders is as follows:

Instructions to Coders

Participants have been asked to make a moral judgement about the permissibility of allowing a national legal market for live kidneys for medical transplantation to operate. Participant's moral judgements are recorded in Column B labelled MJ Recode. Three different moral judgements are possible:

1. Yes – indicating the market is morally acceptable
2. No – indicating the market is NOT morally acceptable
3. Neutral – indicating the participant was undecided about the acceptability of the market

Column C contains participant's moral reasoning regarding their moral judgement.

Your first task is to code whether participant's moral reasoning is consistent with their moral judgement. Specifically, if they answer "Yes" then their moral reasoning should be consistent with this judgement and support the permissibility of a kidney market. By contrast if they

answer "No" then reasoning should be consistent with this position. If their moral judgement is classified as "Neutral" then their reasoning should support this position.

If you judge that there is consistency between a participant's moral judgement and their moral reasoning please record a 1 in Column D labelled "consistency".

If you judge that there is inconsistency please record a 2 in Column D. Inconsistent reasoning could be either (i) reasoning that is the opposite of the moral judgement indicated or (ii) reasoning that simply does not make sense in terms of the moral judgement made.

Your second task is to classify the reasons provided by participants for their judgements.

When coding a participant's moral reasoning the symbol:

1 - will be used to classify a reason relating to the immorality of treating people as commodities, or the morality of not treating people as commodities.

2 - will be used to classify a reason relating to the immorality of interfering with a person's freedom or right to do what they want with their body or the morality of allowing people to do what they want with their body. This includes people's freedom to enter into contracts.

3 - will be used to classify a reason relating to the immorality of not doing what can be done to preserve/save human life or the morality of doing all that can be done to preserve/save human life.

4 - will be used to classify a reason relating to a consequentialist perspective where the judgement is justified because the benefits outweigh the costs.

5 - will be used to classify a reason from a deontological perspective where the judgement is justified on the basis of an appeal to a moral rule or duty to act a certain way.

6 - will be used to classify a reason relating to concerns about fairness or exploitation or coercion.

7 - another reason not classified in categories 1 – 6.

8 - not providing a reason. Participants who can't provide a reason may be exhibiting what Haidt and colleagues call "moral dumbfounding".

7.3.2. Experiment 2

7.3.2.1. Treatment groups

In Experiment 2 there were only two treatment groups that were identical to TG1 (no-time-delay, 8 second group) and TG2 (time-delay, 3 minute group) in Experiment 1.

7.3.2.2 Time delay

The Cobbleton and Creanford scenarios from Experiment 1 was used in Experiment 2.

You have 8 seconds to complete the following task:

Or

For 3 minutes think about the scenario you read about on the previous page and then answer the question below. It is not possible for you to provide your response until 3 minutes have elapsed.

7.3.2.3 The moral judgement task

Is it morally acceptable to permit a legal national market for kidneys from living persons to operate in Cobbleton:

Yes No

7.3.2.4 The deontological and consequentialist orientation scale

Please see Appendix B for information on this scale.

7.3. Appendix D – ETHICS

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MACQUARIE University
SYDNEY·AUSTRALIA

24 October 2016

Mr Craig MacMillan
Department of Psychology
Faculty of Human Sciences
Macquarie University
NSW 2109

Dear Mr MacMillan

Reference No: 5201000639

Title: *Sacred Values, Taboo Trade-offs and the Moral Limits of Markets*

This letter is to confirm that the ethics application cited above met the requirements set out in the *National Statement on Ethical Conduct in Human Research* (2007 – Updated May 2015) (the *National Statement*).

The application received approval from the Faculty of Human Sciences Ethics Subcommittee of the Macquarie University Human Research Ethics Committee on 17 June 2010.

The above project was conducted by Mr Craig MacMillan, Doctoral candidate, under the supervision of Associate Professor Colin Wastell from the Department of Psychology.

Please do not hesitate to contact me if you have any questions.

Yours sincerely

Dr Karolyn White
Director, Research Ethics & Integrity
Chair, Macquarie University Human Research Ethics Committee

This HREC is constituted and operates in accordance with the National Health and Medical Research Council's (NHMRC) *National Statement on Ethical Conduct in Human Research* (2007) and the *CPMP/ICH Note for Guidance on Good Clinical Practice*.

MACQUARIE UNIVERSITY

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07 May 2014

Associate Professor Colin Wastell
Department of Psychology
Faculty of Human Sciences
Macquarie University
NSW 2109

Dear Associate Professor Wastell

Re: "Moral Reasoning and Judgement about Market Exchanges: The Role of Deliberation in Moral Judgement"

Thank you for your application for the above project. The Human Research Ethics Committee (Human Sciences and Humanities) considered your application at its meeting held on 2 May 2014.

This research meets the requirements set out in the *National Statement on Ethical Conduct in Human Research* (2007) and your application has been approved.

Details of this approval are as follows:

Reference No: 5201400384

Approval Date: 07 May 2014

This letter constitutes ethical approval only.

The following documentation have been reviewed and approved by the HREC (Human Sciences and Humanities):

Documents reviewed	Version no.	Date
Macquarie University Human Research Ethics Application	2.3	Jul 2013
Participant Information & Consent Form		
Email Advertisement		
Section 1: Demographic Questionnaire		
Section 2: Sacred Value Measure		
Section 3: Trade-off Scenarios		

Please ensure that all documentation has a version number and date in future correspondence with the Committee.

Standard Conditions of Approval:

1. Continuing compliance with the requirements of the *National Statement,* which is available at the following website:

http://www.nhmrc.gov.au/book/national-statement-ethical-conduct-human-research

2. Approval is for five (5) years, subject to the submission of annual reports. Please submit your reports on the anniversary of the approval of this protocol.

3. All adverse events must be reported to the HREC within 72 hours.

4. Proposed changes to the protocol must be submitted to the Committee for approval before implementation.

It is the responsibility of the Chief investigator to retain a copy of all documentation related to this project and to forward a copy of this approval letter to all personnel listed on the project.

Please do not hesitate to contact the Ethics Secretariat should you have any questions regarding your ethics application.

The HREC (Human Sciences and Humanities) wishes you every success in your research.

Yours sincerely

Dr Karolyn White
Director, Research Ethics & Integrity
Chair, Human Research Ethics Committee (Human Sciences and Humanities)

This HREC is constituted and operates in accordance with the National Health and Medical Research Council's (NHMRC) National Statement on Ethical Conduct in Human Research (2007) (the National Statement) and the CPMP/ICH Note for Guidance on Good Clinical Practice.

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MACQUARIE University
SYDNEY·AUSTRALIA

24 October 2016

Mr Craig MacMillan
Department of Psychology
Faculty of Human Sciences
Macquarie University
NSW 2109

Dear Mr MacMillan

Reference No: 5201500822

Title: *Moral Judgements About Market Exchanges: The Effect of Tragic Trade-Off Strength*

This letter is to confirm that the ethics application cited above met the requirements set out in the *National Statement on Ethical Conduct in Human Research* (2007 – Updated May 2015) (the *National Statement*).

The application received approval from the Macquarie University Human Research Ethics Committee on 30 October 2015.

The above project was conducted by Mr Craig MacMillan, Doctoral candidate, under the supervision of Associate Professor Colin Wastell from the Department of Psychology.

Please do not hesitate to contact me if you have any questions.

Yours sincerely

Dr Karolyn White
Director, Research Ethics & Integrity
Chair, Macquarie University Human Research Ethics Committee

This HREC is constituted and operates in accordance with the National Health and Medical Research Council's (NHMRC) *National Statement on Ethical Conduct in Human Research* (2007) and the *CPMP/ICH Note for Guidance on Good Clinical Practice.*

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