Mapping French Laypeople's Views Regarding Living Organ Donation

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ABSTRACT

Background. French laypeople's views on living organ donation (LOD) were examined.

Methods. From 2010 to 2014, 327 adults (including 21 nurses) judged the acceptability of LOD in 60 realistic scenarios composed of all combinations of 5 factors: 1. type of organ; 2. whether it could have been obtained from a cadaver; 3. donor-recipient relationship; 4. donor's level of autonomy; 5. financial compensation; and 6. patients' level of responsibility for their illness. In all scenarios, the patients were in need of a kidney or liver transplantation. The ratings were subjected to cluster analysis and analyses of variance.

Results. Five qualitatively different positions were found that were termed Free Market (22%), Pragmatism (15%), Altruism (48%), Always Acceptable (7%), and Undetermined (8%). Nurses comprised the majority (90%) of the members of the altruism cluster. Younger and more-educated people were, more frequently than older and less-educated people, members either of the pragmatism or of the free market cluster.

Conclusions. Half of French adults support the altruism model of LOD. A substantial minority, however, mostly young and more educated people, support alternative models allowing the introduction of financial incentives.

THE SUPPLY of organs from deceased person's bodies for transplant varies according to families' willingness to allow post-mortem organ removal and to surgical teams' and paramedical services' abilities to harvest these organs [1]. Even in countries in which attitudes are mostly positive and the health system performs well, however, the supply is inadequate. As a result, living organ donation (LOD) has been increasingly encouraged.

Specific ethical issues are associated with LOD. Is it permissible to harm persons when they have apparently no benefit to expect [2]? Is it acceptable to compensate a donor financially [3,4]? Should altruistic LOD to a friend be permitted [5,6]? Is a full understanding of the transplantation process an absolute requisite [7]?

In Western countries, most people consider LOD an acceptable procedure [3]. Regarding kidney donation to a stranger, the percentage of people who agree is always very high in the United States [8]. When the organ is a part of a liver, however, public support is lower, although still high [9,10]. If the donor is not related, support for donation falls: Thomas et al [11] showed that British healthcare practitioners disapproved of altruistic living anonymous liver donation because of the risks associated with the procedure. In addition, most people disapprove payment [12]. Mazaris et al [13] reported that only 21% of British people agreed with the idea that anonymous donors should receive a direct financial reward.

THE PRESENT WORK

The present work was conducted in France, a country where LOD is permitted if it is approved by a panel of experts. Until 2011, it was limited to donation from close relatives.

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The revised law, issued in July 2011, allows LODs when they are paired; that is, when two donors are each incompatible with their hoped-for recipient but compatible with the other one. In this case, donations must be non-directed; that is, the pairing cannot be determined by the donors [14]. In 2015, 571 LOD transplantations were performed in France [15]. This revision brought French law closer to current laws regarding organ donation in Western European countries such as the United Kingdom, where living donation to a stranger is allowed [16].

The present work complements previous studies on the acceptability of LOD by examining the combined effects of diverse factors that, according to these studies, affect people's views. Participants were presented with realistic scenarios depicting situations in which, after a person has been asked to donate an organ by a member of an unrelated patient's family—a not uncommon situation [17]—she tells the transplantation service that she is willing to donate the organ. Participants were asked to assess the extent to which the transplantation service should, ideally, agree with her decision. Data were gathered at 2 different times: 1. in 2010 and 2011, before the passage of the law that allowed paired LOD, that is, LOD to non-relatives; and 2. in 2012 and 2013, after the signature of the decrees stipulating how it would be applied.

The scenarios were created by varying 5 factors: 1. organ (kidney vs liver) [9]; 2. whether the organ could have been obtained from a cadaver before the patient's health deteriorated irremediably or not; 3. type of donor-recipient relationship (family member vs friend) [5]; 4. donor's level of autonomy (understands the surgical procedure and the consequences of the donation, only partially understands, or partially understands and, in addition, is gently pressured by the family) [11]; 5. financial compensation (present vs absent) [18]; and 6. whether the patient was responsible for her illness [19].

HYPOTHESES

Based on previous literature, we expected to find at least 4 qualitatively different positions among participants. The first could be called "free market" [20], which is based on the view that people are the owners of their bodies and have the right to do what they like with them. Proponents of this view argue that commercialization of body parts would increase the availability of organs, with the consequences of a decrease in waiting time before transplantation, an increase in the number of lives saved, and a marginalization of the existing black market in organs. Detractors usually point to the dangers associated with the commoditization of body parts, notably exploitation of the poor and injustice in allocation of organs [20]. We expected this to be a minority position. We also expected that the judgments of participants endorsing a free market position would not be influenced by the presence or not of compensation, but would be sensitive to the autonomy factor because free market transactions suppose that each agent has a complete understanding of what is involved.

The second position—"altruism"—is based on the view that a human body, unlike a non-human animal body, cannot be considered as private property [20]. People cannot decide to sell parts of their body or to buy parts of anybody else's body. People may, however, freely offer them to persons whose life is endangered. Detractors argue that altruism is insufficient, pointing to the increasing number of people who die because of a shortage of organs, except in Iran where the free market position prevails [21]. We expected "altruism" to be a majority position and that the judgments of participants who endorsed it would be influenced by the presence of compensation—considering any financial transaction as unacceptable—by the level of donor autonomy and by the closeness of the relationship between donor and recipient.

The third position—"non-malevolence"—is based on the view that people should not be allowed either to harm themselves (by removing organs) or to request that others harm themselves (by soliciting organs) [2]. This view is often expressed by organ recipients who, in some cases, do not feel at ease with the idea that others have decided to harm themselves in order to save their lives [22]. Participants endorsing such a position would rate all scenarios as quite unacceptable.

The fourth position is called "always acceptable for family member." Simmons et al [23] examined the process by which a person "decides" to be a kidney donor and found that no less than 88% declared that an immediate decision was made as soon as they realized that a family member needed an organ. Such a finding directly challenges the view that a donor must be a reasonable, autonomous person who is able to discern and analyze the risks and benefits associated with each option. Those holding this position would argue "that consent that emanates from such deep affection should be considered just as valid as consent that is fully informed" [7, p. 189].

In addition to these hypotheses about the participants' different positions, we developed the following research question: To what extent did the passing of the law impact participants' views?

METHOD

Participants

The participants were 327 adults (including 21 nurses) living in the area of Toulouse, France, aged 18 to 73 years ($M = 34.32$, $SD = 13.81$). The researchers contacted 500 people walking along city sidewalks, of whom 306 (61%) participated. In addition, they contacted 40 nurses working in hospitals, of whom 21 participated. Table 1 shows the demographic characteristics of the sample. The main motive given for not participating was lack of time.

Material

The material was composed of 60 vignettes showing a realistic story and a response scale. Forty-eight of these stories were created by orthogonally combining the levels of 5 factors: Organ (kidney vs liver) × Alternative Way (the organ could have been obtained from a cadaver or not) × Relationship (family vs friend) × Level of Autonomy (understands the surgical procedure and the

Table 1. Demographic Characteristics of the Sample and of Each Cluster

	Cluster					
	Free Market	Pragmatism	Altruism	Always	Undetermined	Total
Sex						
Male	24 (18)	24 (18)	60 (47)	9 (7)	13 (10)	130
Female	48 (24)	25 (13)	97 (49)	14 (7)	13 (7)	197
Age						
18–22 y	20 (27)	16 (22)*	26 (35)*§	8 (11)	4 (5)	74
23–30 y	23 (25)	18 (20)‡	34 (37)‡§	6 (6)	11 (12)	92
31–45 y	13 (16)	10 (12)	44 (55)§	5 (6)	9 (11)	81
46+ y	16 (20)	5 (6)*‡	53 (66)*‡	4 (5)	2 (3)	80
Educational level						
Primary	9 (16)*	3 (6)*	31 (56)	9 (16)*	3 (6)	55
Secondary	29 (18)	29 (19)*	75 (48)	10 (6)	14 (9)	157
Tertiary	34 (30)*	17 (15)	51 (44)	4 (3)*	9 (8)	115
Religious involvement						
Atheists	44 (24)	30 (16)	86 (47)	12 (7)	11 (6)	183
Believers in God	19 (20)	14 (14)	51 (52)	4 (4)	10 (10)	98
Regular Attendees	9 (20)	5 (11)	20 (43)	7 (15)	5 (11)	46
Group						
Laypeople	72 (24)	48 (16)	138 (45)*	23 (7)	25 (8)	306
Nurses	0 (0)	1 (5)	19 (90)*	0 (0)	1 (5)	21
Year of data gathering						
2010–2011	36 (24)	24 (16)	83 (54)*	9 (6)	1 (1)*	153
2013–2014	36 (21)	25 (14)	74 (43)*	14 (8)	25 (14)*	174
Total	72 (22)	49 (15)	157 (48)	23 (7%)	26 (8%)	327

The figures in parentheses are percentages. *‡§Figures with the same symbols are significantly different, $P < .05$.

consequences of the donation, does not fully understand, or does not understand and, in addition, has been pressured by the family) × Financial Compensation (present or absent). In these 48 stories, it was indicated that the patient was not responsible for his illness. An additional set of 12 stories was also created in which the patient was considered as responsible for his illness. These scenarios were duplicates of 12 of the stories taken from the first set of 48, in which the organ was a liver that could not be obtained from a cadaver.

An example of a scenario is the following: "Monsieur Karli suffers from severe liver malfunction, which is the consequence of hepatitis C. He was infected many years ago and does not bear any personal responsibility for it. He needs a transplant. According to the transplantation center, he might be able to receive part of a liver obtained from a cadaver before his health irremediably deteriorates. Mr. Lomond, a person whom Mr. Karli's family knows, has, however, been approached by the family and solicited to give a lobe of his liver. This lobe could be transplanted without any delay. Mr. Lomond understands perfectly the risk associated with the extraction and has not been pressured. Mr. Lomond has, nevertheless, been offered a non-negligible financial compensation for the donation. Mr. Lomond has, finally, expressed his willingness to donate a lobe of his liver to Mr. Karli. To what extent do you think that the donor's decision can be considered as acceptable by a transplantation center?" The response scale was an 11-point scale with 2 anchors labeled "Not at all receivable" and "Completely receivable".

Procedure

As indicated above, data collection took place first in 2010 and 2011 and then in 2012 and 2013. It was completed in a quiet room, usually in the participant's home. Each person was tested individually. The procedure followed Anderson's [24,25] recommendations for this kind of study (see also Shanteau and Skowronsky [26]; Muñoz Sastre et al [27]). Participants took 25 to 45 minutes to complete the ratings. No participant voiced any complaint about the number of vignettes or about the credibility of the proposed situations.

RESULTS

A cluster analysis using the K-means procedure [28,29] was first applied in order to detect qualitatively different patterns of ratings. A 5-cluster solution was retained. An overall analysis of variance (ANOVA) was conducted with a design of Cluster × Organ × Alternative Way × Relationship × Autonomy × Compensation, 5 × 2 × 2 × 2 × 3 × 2. Owing to the great number of comparisons, the significance threshold was set at .001. As the cluster effect and 4 of the 5 2-way interactions involving cluster were significant, 5 separate ANOVAs were conducted at the cluster level. Five separate ANOVAs were also conducted on the additional data, with a design of Responsibility × Relationship × Autonomy × Compensation, 2 × 2 × 3 × 2. The patterns of data that correspond to 4 of the 5 clusters are shown in Fig 1 and the distribution of participants in each cluster is shown in Table 1. The results of the corresponding ANOVAs are shown in Table 2.

The first cluster (22% of the sample) was the expected "free market" cluster because the impact of remuneration was weak and the impact of autonomy was by far the strongest. Ratings were higher in the case of full autonomy (M = 8.45) than when autonomy was low (M = 0.88) or intermediate (M = 3.46). The effects of 3 other factors, including the remuneration factor, although significant, were small. As shown in Table 1, participants with tertiary

Table 2. Main Results of the Analyses of Variance Performed at the Cluster Level

Cluster and Factor	*df*	*MS*	F	*P*	η^2_p
Cluster Free Market					
Organ (O)	1	0.67	0.23	.63	.00
Alternative Way (C)	1	202.23	29.59	.001	.29
Relationship (R)	1	13.25	4.01	.05	.05
Autonomy (A)	2	17 054.83	505.07	.001	.88
Remuneration (D)	1	570.38	50.56	.001	.42
A × D	2	85.05	15.50	.001	.18
Responsibility (P)	1	84.89	14.72	.001	.17
Cluster Pragmatism					
Organ (O)	1	0.23	0.108	.74	.00
Alternative Way (C)	1	891.27	48.500	.001	.51
Relationship (R)	1	10.43	4.948	.03	.09
Autonomy (A)	2	5101.93	540.518	.001	.92
Remuneration (D)	1	1321.63	96.103	.001	.67
A × D	2	49.69	10.241	.001	.18
Responsibility (P)	1	79.62	7.036	.01	.13
Cluster Altruism					
Organ (O)	1	2.71	1.19	.28	.01
Alternative Way (C)	1	445.85	49.19	.001	.24
Relationship (R)	1	20.91	7.84	.01	.05
Autonomy (A)	2	13 280.54	844.21	.001	.84
Remuneration (D)	1	18 762.72	698.05	.001	.82
C × A	2	46.50	12.47	.001	.07
R × D	1	23.97	14.75	.001	.09
A × D	2	4 436.56	347.58	.001	.69
Responsibility (P)	1	108.70	28.793	.001	.16
Cluster Always					
Organ (O)	1	1.83	0.81	.38	.04
Alternative Way (C)	1	6.54	0.67	.42	.03
Relationship (R)	1	0.15	0.08	.78	.00
Autonomy (A)	2	358.96	34.36	.001	.61
Remuneration (D)	1	259.26	21.98	.001	.50
Responsibility (P)	1	49.92	10.82	.01	.33
Cluster Undetermined					
Organ (O)	1	89.39	9.87	.01	.28
Alternative Way (C)	1	1.85	0.26	.61	.01
Relationship (R)	1	3.49	0.80	.38	.03
Autonomy (A)	2	75.90	6.48	.01	.21
Remuneration (D)	1	36.01	4.59	.04	.16
R × A	2	29.95	9.97	.01	.29
Responsibility (P)	1	11.04	1.37	.25	.05

education were more frequently members of this cluster than participants with primary education.

The second cluster (15%) was called "pragmatism" because the impacts of 3 factors were strong. When the level of autonomy was low (M = 2.66) or intermediate (M = 4.48), the organ was available from a cadaver (M = 4.34), or compensation was offered (M = 4.20), ratings were lower than in the case of full autonomy (M = 7.75), when the organ was not available (M = 5.58), or when compensation was not offered (M = 5.72). Younger participants or participants with secondary or tertiary education were more frequently members of this cluster than older participants or participants with only primary education.

The third cluster (48%) was the expected "altruism" cluster because the impacts of the compensation and autonomy factors were strong, and, more importantly, they interacted. When compensation was offered, ratings were always low (M = 1.34). When it was not offered, ratings were very high in case of full autonomy (M = 8.45) and much lower in both other cases (M = 1.33 and 3.71). Older participants or nurses or participants interviewed before the passing of the law were more frequently members of this cluster than younger participants, laypeople, or participants interviewed after the passing of the law.

The fourth cluster (7%) was different from the expected "always acceptable" cluster in that all ratings, and not just the ones given to scenarios involving family members, were higher than the middle of the response scale (M = 7.00). Participants with primary education were more frequently members of this cluster than participants with tertiary education.

The fifth cluster (8%, not shown) was called "undetermined" because ratings were always close to middle of the response scale (M = 5.11). Participants interviewed after the passing of the law were more frequently members of this cluster than participants interviewed before.

DISCUSSION

As expected, several qualitatively different positions regarding LOD were found. The most common position was "Altruism". People sharing this position think that when would-be donors are aware of the risks, not pressured by a recipient's family members, and not offered financial incentive, then LOD is acceptable. This finding is consistent with findings from previous surveys reviewed above conducted in other Western countries that show that a majority of survey participants 1. tend to reject direct financial compensation; 2. consider that the recipient's identity is not an important factor; and 3. are aware that survival rates are higher after living than after posthumous donation. Older participants and nurses tend to share this position more often than others, which is consistent with the fact that current legislation in France is based on the altruistic model.

A "free market" position was found, according to which LOD is acceptable when would-be donors are autonomous people, irrespective of other circumstances. Previous findings had already shown that according to surveys, 5% to 28% of participants believe that direct financial compensation is acceptable [30]. More educated participants tend to share this position more often than others, which suggest that they are possibly aware that other models exist that allow some forms of compensation or even the regulated selling of organs.

Two unexpected positions have been found. "Pragmatism", "altruism", and "free market" share a concern regarding the donor's autonomy, although "pragmatism" differs from "altruism" in that 1. financial compensation does not imply systematic rejection, and 2. posthumous donation is considered more acceptable than LOD. Altruism is not in this case a necessary basis for judging acceptability. "Pragmatism" also differs from "free market" in that several factors also matter

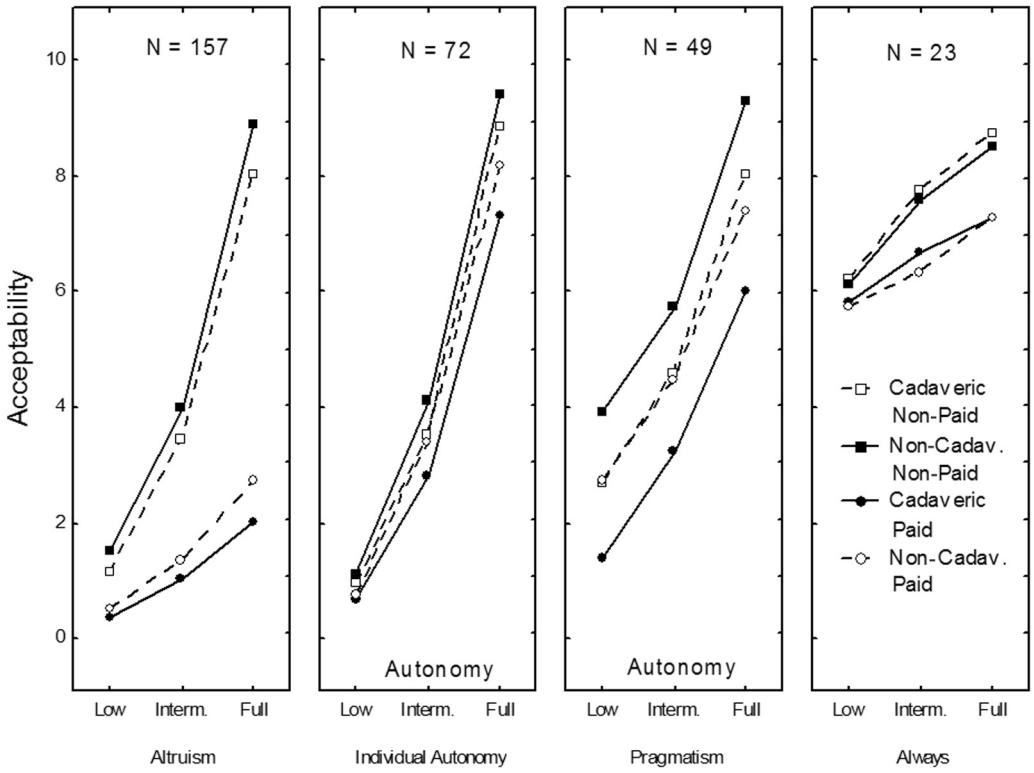

Fig 1. Patterns of results corresponding to 4 of the 5 clusters. In each panel, the mean acceptability ratings are on the y-axis, the levels of donors' autonomy are on the x-axis, and the 4 curves correspond to the combination of 2 factors: financial compensation and alternative way.

in addition to donor's autonomy. Younger participants tend to share this position more often than others, which is consistent with findings showing higher support for any kind of financial compensation among young people [4,31]. More educated participants tend to frequently share this position, which reinforces the suggestion that, owing to greater awareness of other models, some people are gradually evolving from a strictly altruistic view to an acceptance or at least a tolerance of direct financial compensation when the patient's life is endangered. This was the main reason why this position was called "pragmatic".

The second unexpected position was the "always acceptable" position. Sixty-five percent of participants in this cluster were regular church attendees (vs 14% in the whole sample), which helps to understand the nature of this position. The "gift of life" is so beautiful that it may take a sacred character [7]. The "undetermined" cluster could have been anticipated. In previous studies in which "don't know" responses were allowed [4], a minority expressed true uncertainty over whether direct compensation or anonymous donation were acceptable procedures.

Finally, the expected "never acceptable" position was not found. The concerns evoked by Moore [2] at a time when living donation was not common practice have now largely faded away. In the study by Mekahli et al [32], also conducted in France, 97% of students supported LOD.

CONCLUSIONS

It seems that the altruism model is gradually eroding [20]. This model is ethically pleasing: It places one highly prized human quality—altruism—at the center of any policy regarding donation [33]. It is, however, increasingly inadequate. Nature is neither ethical nor unethical: Populations grow older everywhere in the world and organ dysfunctions associated with aging are inescapable realities. In addition, medical advances have made organ transplantation increasingly feasible. Health policies based only on what is considered ethical and possible at a given time and place are bound to fail. The challenge now is to devise new policies that retain altruism but incorporate new policies that work elsewhere. Compensation for donation can take many forms in addition to one-time direct cash payments from the donor or the government, and some of them (eg, health insurance benefits) are already considered acceptable by a majority of people in the United States [18,31]. A policy of compensation has both a financial and a moral justification. The financial case is suggested by the finding that the living donation of a kidney leads to savings of about $100,000 [34]. The moral basis could be reciprocity rather than pure altruism [12]. Reciprocity is not synonymous with economic transaction and is not antagonistic to solidarity: Van Buren et al [35] showed that 60% of a sample of Dutch living donors approved of financial rewards to anonymous donors.

Living donors help society beyond what is normally required of citizens, so that, for example, it would not seem immoral for society to give them extra help to improve their health, especially in light of the real, though very small, short- and long-term health risks associated with living donation [36]. French people, would, to some extent, be open to changes in policy that would include financial incentives.

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