

Functional Measurement in the Field of Empirical Bioethics

Etienne Mullet*^a, Paul C. Sorum^b, Nathalie Teysseire^a, Stéphanie Nann^c,
Guadalupe Elizabeth Morales Martinez^d, Ramadan Ahmed^e, Shanmukh
Kamble^f, Cecilia Olivari^g, Maria Teresa Munoz Sastre^h

*Institute of Advanced Studies (EPHE), France^a; Albany Medical College,
USA^b; University of Caen, France^c; Universidad Autonoma de Nuevo Leon,
Mexico^d; University of Kuwait, Kuwait^e; Karnataka University, India^f;
Catholic University of El Maule, Chile^g; Mirail University, France^h*

We present, in a synthetic way, some of the main findings from five studies that were conducted in the field of empirical bioethics, using the Functional Measurement framework. These studies were about (a) the rationing of rare treatments, (b) adolescents' abortions, (c) end-of-life decision-making regarding damaged neonates, (d) end-of-life decision making regarding terminally-ill patients, and (e) sexuality among persons with learning disabilities. The paper also discusses what these findings tell us about the relative importance of the four principles of bioethics that are generally considered as fundamental. Two of the four principles—autonomy and justice—seem to dominate lay people's shared beliefs about bioethics issues. The principle of autonomy is clearly central, and the principle of justice is subordinated to the autonomy principle: Each patient, irrespective of his/her characteristics, has the right to have his/her autonomy of decision respected. The two other principles – benevolence and non-maleficence – appear as peripheral ones. Once the autonomy principle is respected and the justice principle applies, acting in a benevolent way and not acting in a malevolent way become simple implications. When the patient has lost his/her autonomy, however, these two principles (re)gain importance.

* Corresponding author. E-mail address: etienne.mullet@wanadoo.fr

BIOETHICS: A MULTIDISCIPLINARY FIELD OF STUDY

Once conceived as the exclusive domain of philosophers and theologians, bioethics has evolved, in no more than 25 years, to be a “multidisciplinary field of study, where moral philosophy, the medical sciences, the humanities, and the social sciences intersect” (Jacoby & Siminoff, 2008, p. 2). “In its reconstructed role, ethical theory is no longer isolated from experience in preexisting forms as it appears in traditional philosophical ethics, but is connected to experience and informed by it” (Shelton, 2008, p. 16).

From a professional viewpoint, it was always evident that bioethics cannot be reduced to general principles or the mere application of general principles to concrete settings. From a daily life perspective, ethics is the determination, in each concrete set of circumstances, of what constitutes the right conduct (or, at least, the less unacceptable conduct). Interestingly, this viewpoint was already the one that was developed by Aristotle, more than 2000 years ago, in his *Nichomachean Ethics* (Aristotle, 2004).

Aristotle considered that ethics was, in a fundamental way, an issue of practical reasoning, concrete deliberation (*bouleusis*), and applied wisdom (*phronèsis*). Aristotle suggested that the true expert in ethics was the honest, prudent, and conscientious citizen: the “phronimos”. This person was not necessarily a scholar. It was a person who was able to apply his/her reasoning abilities without prejudices, to take into account the pros and cons of each concrete situation, and to rely on his/her human virtues when deciding on the more acceptable course of action; that is, acting “at the right times, on the right grounds, towards the right people, for the right motive, and in the right way” (Aristotle, 2004, p. 41). This coming back to Aristotle’s views in the domain of ethics has been nicely illustrated in Rachels’ *Elements of Moral Philosophy* (2010, see Chapter 12).

Bioethics Requires Human Judgment

As illustrated by Aristotle, ethics indeed requires judgments. A given behavior is not in itself ethical or unethical: It can, however, be judged as conforming or not conforming to ethics. Yet this judgment of conformity is apt to vary over time, over culture, and according to the particular person. Problems of ethics arise most often in situations that can be considered as complex, as emotionally charged, or in situations in which certain elements point in one direction and other elements in the opposite direction. In other words, multiple factors are most often in play, and they are likely to contribute in a complex way to the final judgment relating to

conformity with ethics (see also Berlinguer, 2003; Klespies, 2004; Palmer, 2005).

It is, therefore, not surprising that a theory of judgment like Information Integration Theory – the intention of which is to study principally the rules of judgment, i.e., the manner in which persons take into account numerous elements of information of all types and combine them mentally to arrive at a global judgment – has been applied multiple times to the domain of ethical judgment. Information Integration Theory is neutral with respect to the multiple stakes and ethical stands. It does not, by itself, bring a response to the question of whether a certain medical procedure, for example abortion, is acceptable or not. Information Integration Theory offers, however, a robust methodological framework (Functional Measurement) ready to be implemented to respond to questions of ethics posed by professionals, and/or by the public (Anderson, 2008).

During the last decade, a series of studies conducted in the framework of Information Integration Theory have emerged in the field of empirical bioethics. The current paper presents, in a synthetic way, some of the main findings from five such studies, which were about (a) the rationing of rare treatments, (b) adolescents' abortions, (c) end-of-life decision-making regarding damaged neonates, (d) end-of-life decision making regarding terminally-ill patients, and (e) sexuality among persons with learning disabilities. Moreover, it is discussed what these findings tell us about the relative importance of the four principles of bioethics that are generally considered as fundamental: respect for patients' autonomy, benevolence towards patients, non-malevolence towards them, and justice (Beauchamp & Childress, 2004). Finally, it is shown how these principles interact in complex situations.

EMPIRICAL FINDINGS

Judging of Patient's Priority for Benefiting from Rare Treatments. Figure 1 shows some main findings of a study that was conducted in Cambodia, which examined how Cambodian patients ($N=50$) and health professionals ($N=30$) judge the priority that should be given to particular HIV-infected patients regarding the allocation of antiretroviral drugs (Nann et al., 2011). Participants were presented with 48 vignettes, each comprising a textual description of some patient's situation, and were required to rate the extent to which the patient should be given priority for free treatment with anti-HIV drugs. The descriptions comprised information on 4 characteristics of the patient's condition that were arranged in a 4-within-subject-factors design:

- (a) the patient's Family Responsibilities (4 levels),
- (b) the Severity of Infection (3 levels),
- (c) the Time elapsed since the first consultation (2 levels), and
- (d) the Financial Resources of the family (2 levels).

An example of such description was the following: "Mrs. THY Savon is 35 years old. She is the mother of four young children. Since about a year she has been coming regularly to the medical dispensary of the suburb north of Phnom Penh. She is infected with the AIDS virus. The severity of the infection is now very high (CD4 <50). Mrs. THY Savon lives in family conditions that do not much favor the continuation of treatment. Her family does not have enough income to keep everyone alive. It is not possible, unfortunately, to provide all seropositive people with this treatment. To what extent do you think that this person should be given priority in the allocation of treatment?"

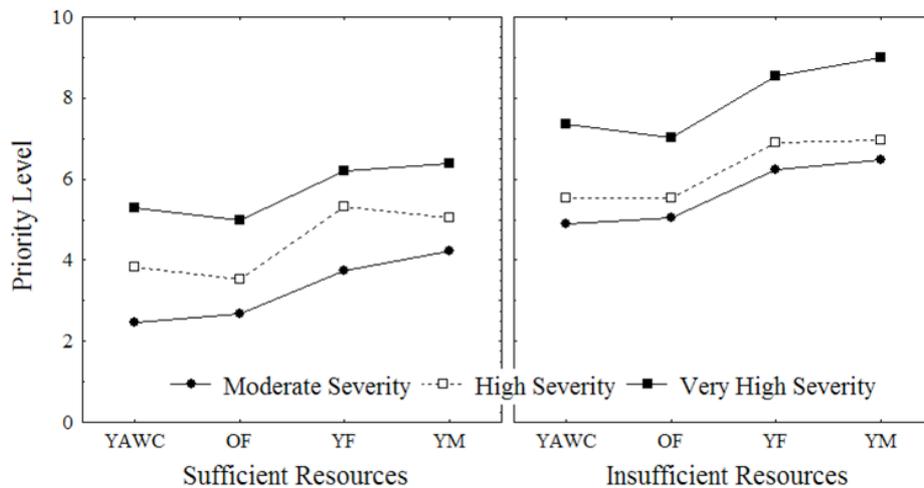


Figure 1: Patterns of results corresponding to one of the four clusters: Social Situation and Infection. The results for the scenarios of families with sufficient income are on the left side and of families with insufficient income on the right. The priority ratings for the scenarios are on the y-axis. These are separated according to the identity of the patient (on the x-axis) and the severity of the infection (on the three curves). YAWC = young male without children; OF = older father (with adult children); YF = young father (with four young children); YM = young mother (with four young children).

A cluster analysis was performed on the raw data (see Hofmans & Mullet, in press). Four different views about patients' priorities emerged. A first cluster of participants (about 30% of the patients, and about 20% of the health professionals, not shown in Figure 1) seemed to apply a "Social Responsibility + Family Resources" rule; that is, they seemed to add the importance of social responsibility to the scarceness of family resources when judging the need for free drugs. They assigned the highest priority for the drug administration to patients who are most important from a familial point of view, namely, when the family comprises young children and/or is already in a precarious economic condition. These participants would give the drugs to people who, from a medical point of view, are less sick and, therefore, less likely, at least in the short term, to benefit from them. A second cluster of participants (consisting of about 20% of the patients and about 50% of the health professionals, not shown in Figure 1) seemed to solely rely on the "Severity of Infection" to judge. They would give the drug only to the sicker patients. A third cluster (comprising about 46% of the patients, and about 24% of the health professionals, see Figure 1) seemed to apply a more complex "Social Responsibility + Family Resources + Level of Infection" rule. Finally, a small cluster of only two participants applied a "Waiting time + Family Responsibility" rule.

In view of the discrepancy between patients' views (mostly in the first cluster) and health professional's views (mostly in the second cluster), it is likely that members of the third cluster (patients and health professionals) would be able to serve as mediators if the medical authorities and the public in Cambodia and other poor countries chose to work together to agree on a policy for allocating antiretroviral medications.

Judging the Acceptability of Adolescent Abortions. Figure 2 shows the main findings from a study that was conducted in France in 2005. It examined lay people's judgments of the acceptability of medical or surgical abortion in under eighteens (Muñoz Sastre et al., 2007). Participants ($N=204$) were presented with 64 consecutive brief textual descriptions of adolescents' situations and were required to judge to what extent abortion would be acceptable in each case. The descriptions were administered according to a four within-subject factors design:

- (a) Fetal age (months),
- (b) the adolescent's age,
- (c) the adolescent's plans for further schooling,
- (d₁) the parents' attitude, and (d₂) the attitude of the baby's father.

An example of such description was: "Pauline is 17 ½ years old. She has always wanted to quit school as soon as possible. She is four months

pregnant and she has told her doctor she wants an abortion. Her parents do not consent, nor does her boyfriend. To what extent do you think abortion is an acceptable procedure in this case”?

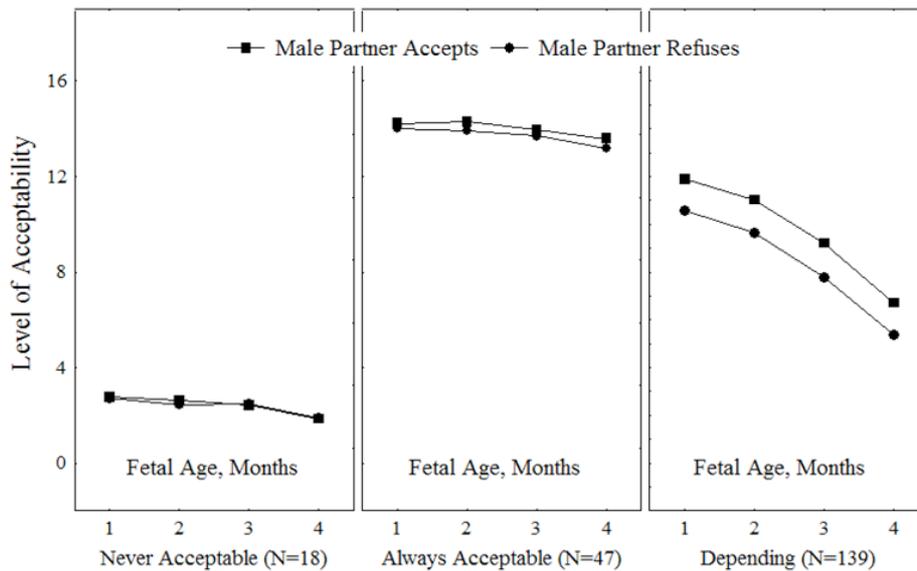


Figure 2: Patterns of results corresponding to the three clusters: The three clusters of attitudes toward adolescent abortion are labeled, from left to right, “Never Acceptable,” “Always Acceptable,” and “Depending.” The x-axis displays the age of the fetus, and the two curves the attitude of the adolescent’s boyfriend (the baby’s father). The mean levels of acceptability for the participants of each combination of age and boyfriend’s attitude are shown on the y-axis.

As in the previous study, a cluster analysis was performed on the raw data, and the results are shown in Figure 2. Three different opinions about the acceptability of abortion emerge. A small cluster of participants (8%) opposed to abortion in each of the circumstances presented in the descriptions. It comprised mainly people with strong religious involvement. A larger cluster (23%) agreed with abortion in each of the circumstances presented (in fact taking a stance in accord with the Swedish rather than the French law). This cluster comprised mainly people with no religious involvement. Finally, a large majority of participants (69%) judged acceptability of abortion as a function of the circumstances. In this case, duration of pregnancy had by far the greatest impact, accounting for most

variance. This effect was non-linear, so that the acceptability of abortion fell more and more rapidly as the fetus approached and then surpassed the legal limit for abortions in France of 3 months.

The large majority of people in France belong to neither extreme, are sensitive to the provisions of French law, judge the acceptability of abortion in an adolescent under 18 as a function of multiple circumstances, and consider the age of the fetus as by far the most important determinant of acceptability. These clarifications of the French public's attitudes have been helpful to the physicians, social workers, and others who assist pregnant adolescents in their decision making about abortion.

Judging the Acceptability of Actively Ending the Lives of Damaged Newborns. Figure 3 shows some of the main findings of another study that was conducted in France in 2007. This study aimed at characterizing and comparing the judgments of lay people ($N=237$), nurses ($N=214$), and physicians ($N=76$) on the acceptability to actively end the life of damaged newborns (Teisseyre et al., 2010). Participants rated the acceptability of giving a lethal injection in each of 54 cases that were presented as textual descriptions that consisted of all combinations of four within-subject factors: gestational age (six, seven or nine months); three levels of severity of either perinatal asphyxia or genetic disease; attitude of the parents about prolonging care (unknown, favorable, or unfavorable); and decision made individually by the physician or collectively by the medical team.

An example of the simulation is the following: "Baby Manuel has been hospitalized since his birth (ten days) in the neonatology services at the Hospital Ambroise Paré. He was born at six months gestation, that is, extremely premature. He suffers from trisomy 13, which will have catastrophic repercussions on the quality of his future life. In addition to extremely serious morphologic anomalies, notably neurological (microcephaly), the infant will show a much retarded development. This genetic disorder causes death in a very short term. The parents are well informed about the true condition of their infant including everything this condition implies. They express clearly the desire that the life of the baby not be prolonged needlessly (no extraordinary treatment). Doctor Konstam decides, after several long discussions with the members of his team (nurses, psychologist and other doctors) to give Manuel a lethal injection. To what degree do you think that such decision is acceptable?"

A cluster analysis was performed on the raw data. No less than five different views were found. A first cluster (about 30% of the physicians, 14% of the nurses and 11% of the lay participants) seemed to apply a

“Never Acceptable” rule (not shown). These participants opposed to the procedure in all of the circumstances described in the vignettes.

A second cluster (about 7% of the physicians, 5% of the nurses, and 23% of the lay participants) applied a “Severity + Parents + Consultation” rule. Here, the severity of the disease had the strongest effect (see top panel of figure 3). A third cluster (about 16% of the physicians, 30% of the nurses, and 32% of the lay participants) applied a “Parents + Severity + Consultation” rule (not shown), where the parent’s attitude had the strongest effect.

A fourth cluster (about 45% of the physicians, 46% of the nurses, and 21% of the lay participants) applied a “Parents \times Severity \times Consultation” rule (center panel). The main characteristic of this cluster is the non-additivity of the combination rule. The curves in both panels are fan shaped, and the fan is open to the right. This rule is a stringent rule stipulating that active euthanasia is acceptable only when several requirements are met simultaneously. Finally, a fifth cluster (about 3% of the physicians, 5% of the nurses, and 14% of the lay participants) applied a “Parents or Severity” rule (bottom panel). The main characteristic of this cluster was the non-additivity of the combination rule. The curves in both panels are fan shaped, and the fan is open to the left.

Only a minority of both lay people and health professionals were, like French law, absolutist in condemning active euthanasia. The majority, however, judged acceptability as a function of the circumstances (see also Teisseyre, Sorum & Mullet, 2009). They asserted that actively ending the baby’s life was increasingly acceptable as the factors combined to favor it, especially when the parents desired to stop treatment and, to a lesser extent, when the baby’s disabilities would be severe (especially for the lay people) and when the team concurred (especially for the health professionals). While most of the lay people combined the factors additively, most health professionals combined them in a conjunctive (multiplicative) fashion. The health professionals’ way of judging was thus in accordance with the legislation on euthanasia and physician-assisted suicide for adults in the Netherlands and elsewhere that requires a set of criteria to be fulfilled before it is legitimate to end a patient’s life.

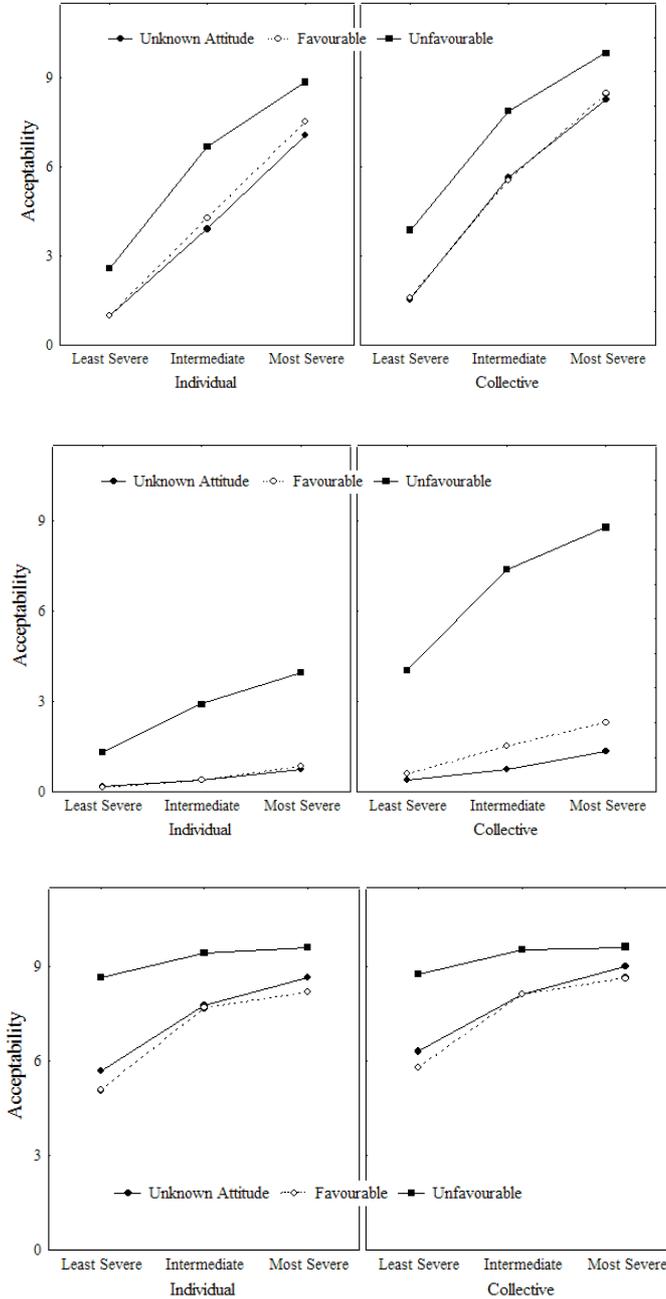


Figure 3: Patterns of results corresponding to three of the five clusters: Severity + Parents + Consultation (top panels), Parents x Severity x Consultation (center panels), and Parents or Severity (bottom panels). Acceptability judgments are on the y axis, severity of the illness is on the x axis, each curve corresponds to one level of attitude of the parents, and each panel correspond to one level of consultation or not with the team, i.e., individual (right side) versus collective decision (left side).

Judging the Acceptability of Ending the Life of Terminally-Ill Patients. Figure 4 shows some of the main findings from a study that was conducted in France in 2003, the results of which have been replicated in Portugal and in Spain. The study aimed at characterizing and comparing the judgments of lay persons ($N=220$), nurse's aides ($N=48$), nurses ($N=92$), and physicians ($N=36$) of the acceptability of actively ending the life of terminally-ill patients (Teisseyre, Mullet & Sorum, 2005). The scenarios were all combinations of three levels of the patient's life expectancy (three days, ten days, or one month), four levels of the patient's request for euthanasia (no request, unable to formulate a request because in a coma, some form of request, repeated formal requests), three levels of the patient's family's attitude (do not uselessly prolong care, no opinion, try to keep the patient alive to the very end), and two of the patient's willingness to undergo organ donation (willing or not willing).

An example of a textual description of one such imaginary patient was the following: "Mr. Bertrand is 40 years old. He is suffering a serious illness, totally incurable given the present state of medical knowledge. He is currently receiving the best possible treatments. However, he suffers atrociously; pain medication cannot truly relieve his suffering. According to his doctors, his life expectancy is about 8 days. He has asked clearly and repeatedly to receive euthanasia. His family has not expressed any particular wish. In addition, Mr. Bertrand has declared he is opposed to donating his organs. To what degree do you think that euthanasia is an acceptable solution in this case"?

A cluster analysis was performed on the raw data. Three different kinds of view were found. A first cluster of participants (about 38% of the physicians, 20% of the nurses, 8% of the nurse's aides, and 12% of the lay persons) applied a "Never Acceptable" rule. A second cluster (about 17% of the physicians, 24% of the nurses, 38% of the nurse's aides, and 43% of the lay persons) applied an "Always Acceptable" rule. Finally, a third cluster (about 47% of the physicians, 56% of the nurses, 54% of the nurse's aides, and 45% of the lay persons) applied a "Patient's Request + Family's attitude + Life expectation" rule. When the patient was in a coma, however, the effect of the family's attitude (unfavorable or favorable) was stronger than when the patient was able to express his wishes. The corresponding mean acceptability ratings were 6.33, 29.40, and 19.23, respectively.

Even though in France it is currently illegal for a physician to practice euthanasia in terminally-ill patients, many physicians, patients, and other people, nonetheless think that euthanasia is appropriate for some patients. Obviously, lay people and health care professionals disagree greatly among themselves, and somewhat between groups, about the

acceptability of physician-performed euthanasia. A large majority of both lay people and health care professionals, however, have quite similar attitudes towards the issue. They assign most importance to the extent of requests for euthanasia by the patient, and they integrate the information on the different factors in the same way. Thus, a common cognitive foundation at the levels of both clinical care and public policy has been demonstrated which can support future discussions on the conditions under which physician-performed euthanasia might be acceptable to the majority of lay people and health care professionals in France and elsewhere.

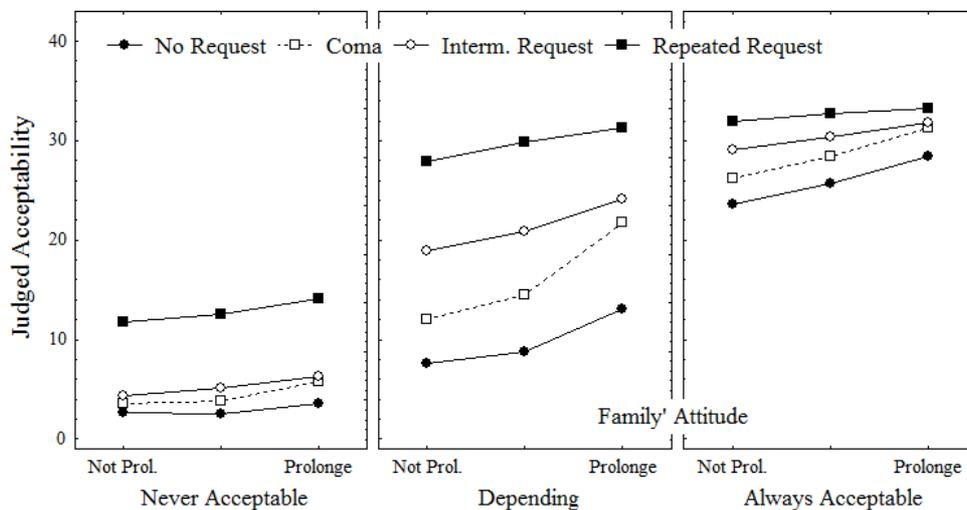


Figure 4: Patterns of results corresponding to the three clusters: The three clusters of attitudes toward euthanasia are labeled, from left to right, “Never Acceptable,” “Depending on circumstances, and “Always Acceptable”. Acceptability judgments are on the y axis, the family’s attitude is on the x-axis, and each curve corresponds to one level of the request factor.

Other studies on the acceptability of ending a terminally-ill patient’s life, conducted in France and using the same methodology (Frileux, et al., 2003, 2004; Guedj et al., 2005; Muñoz Sastre et al., 2010), obtained similar results. A study conducted in Kuwait (Ahmed, Sorum & Mullet, 2010), however, has shown that the person’s request was not an important factor there. In this latter country a majority of persons seemed to apply a “Never

Acceptable” rule. This discrepant finding will be discussed later along with the results of a study that was conducted in India (Kamble et al., 2011).

Judging the Acceptability of Sexual Relationships Among People with Learning Disabilities. Figure 5 shows some main findings from a study that was conducted in Mexico in 2010 (Morales, Lopez & Mullet, 2011). In this study, 3 groups were compared on their attitudes towards sexual relationships among people with learning disabilities (PLDs): 1) parents of children without disabilities ($N=120$), 2) family caregivers (parents of PLDs, $N=75$) and 3) professional caregivers ($N=75$). In the subsample of family caregivers, 25 of them (1/3) were parents of PLDs suffering Down syndrome and 50 (2/3) of them were parents of PLDs suffering from a neuro-motor disorder.

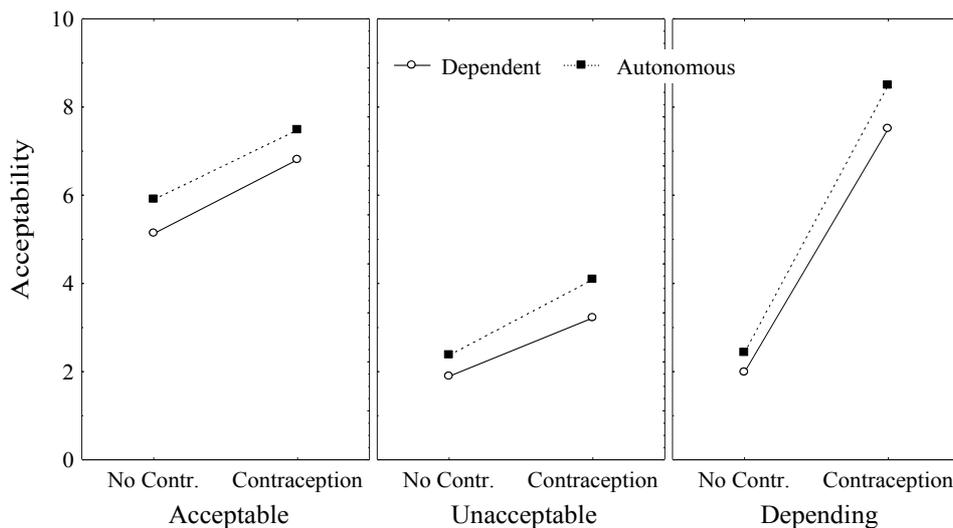


Figure 5: Patterns of results corresponding to the three clusters: The three clusters of attitudes toward sexuality are labeled, from left to right, “Never Acceptable,” “Always Acceptable”, and “Depending on circumstances”. Acceptability judgments are on the y axis, the contraception factor is on the x-axis, and each curve corresponds to one level of the autonomy factor.

Participants were presented with 64 consecutive vignettes, each describing a situation of sexual intimacy between a PLD and another person who has or does not have the same disability. The descriptions were composed according to a six within-subject factors design: Gender × Etiology of the disability (genetic versus congenital) × Level of autonomy (dependent versus relatively autonomous) × Use of contraceptives × Partner's age (same age versus much older) × Partner's handicap (no handicap versus same handicap).

An example of such description was: "Luis Rodriguez, 19 years old, has regular sexual intercourse with Ana Chavez, 42 years-old. Luis has a learning disability. He suffers from intellectual retardation that is due to a trauma during delivery. Luis is, unfortunately, completely dependent. Ana suffers from the same kind of learning disability as Luis. Luis and Ana do not use any contraceptives. To what extent do you consider that the sexual relations between Luis and Ana are, in their present form, acceptable?"

A cluster analysis was performed on the raw data. Three different views were found. A first cluster of participants (about 52% of the parents of PLDs suffering from Down's syndrome, 34% of the parents of PLDs suffering from a neuro-motor disorder, 47% of the professional caregivers, and 27% of the parents of children without disabilities) applied a "Mainly Acceptable" rule. In this cluster, the acceptability ratings were always relatively high, even when the individuals in the scenarios did not use any contraceptives. A second cluster of participants (about 20% of the parents of PLD suffering from Down's syndrome, 46% of the parents of PLD suffering from a neuro-motor disorder, 22% of the professional caregivers, and 40% of the parents of children without disabilities) applied a "Mainly Unacceptable" rule. In this cluster, the acceptability ratings were always relatively low, even when the individuals in the scenarios did use contraceptive methods. Finally a third cluster (about 28% of the parents of PLD suffering from Down's syndrome, 20% of the parents of PLD suffering from a neuromotor disorder, 21% of the professional caregivers, and 33% of the parents of children without disabilities) applied a "Contraception + Autonomy + Age Difference" rule.

The study provided encouraging data. It indicated that, although there are groups of people that express a low level of acceptability towards the sexual rights of PLDs, the majority of the professionals with closer proximity to these persons (68%), as well as a notable part of the lay people (60%), expressed openness toward the sexual expression of the PLDs.

In addition to the five studies reported above, several other studies in empirical ethics involving the use of Functional Measurement have been conducted. They were about (a) the acceptability of the breaking of

confidentiality (Guedj, Muñoz Sastre, Mullet & Sorum, 2006, 2009; Olivari *et al.*, 2011), (b) the acceptability of certain ways of breaking bad news in medicine (Muñoz Sastre, Mullet & Sorum, 2011), (c) the acceptability of involuntary hospitalization in the case of psychiatric patients (Guedj, Sorum, & Mullet, 2012), (d) lay people's attitudes regarding live organ donation (Guedj, Muñoz Sastre, Sorum, & Mullet, 2011; Muñoz Sastre, Sousa, Bodi, Sorum, & Mullet, *in press*), (e) physicians' attitudes toward treating terminally-ill patients with opiates (Mas, Sorum & Mullet, 2010), and (f) the acceptability of sexual relationships between elderly people residing in nursing homes (Esterle, Muñoz Sastre & Mullet, 2011).

THE RELATIVE IMPORTANCE OF THE FOUR PRINCIPLES OF BIOETHICS

It is important, firstly, to note that most people who participated in the studies that have been reported (or simply quoted) in this paper did not exhibit all or none, extreme positions. They consistently showed themselves sensitive to the influence of situational factors on the difficult moral decisions. In other words, they behaved in the way Aristotle (2004) considered as "prudent". The situational factors that have been examined, and to which the participants have unambiguously been sensitive, can be sorted into four categories that correspond to the four principles suggested by Beauchamp and Childress (2004).

The first principle – respect for the autonomy of the persons – has, in the studies discussed above, taken different forms, for instance: (a) the patient's request in Teisseyre *et al.*'s (2005) study, (b) the family's opinion factor (in case of a newborn) in Teisseyre *et al.*'s (2009) study, and (c) the fetus' age (and thus increasing level of autonomy) and the parent's wishes in Muñoz Sastre *et al.*'s (2007) study. In all the cases that have been examined so far, these autonomy-type factors have had a massive impact on acceptability judgments.

The second principle -- benevolence; that is, the requirement to act in the person's interest – has also taken different forms, for instance: (a) the severity of the newborn's health problem factor in Teisseyre *et al.*'s (2009) study, and (b) the adolescent's age (because a baby would be a bigger burden for a younger adolescent) and the adolescent's plans regarding schooling factors in Muñoz Sastre *et al.*'s (2007) study. These beneficence-type factors also had effects on acceptability judgments, but these effects were always considerably less than those of the autonomy-type factors.

The third principle -- non-maleficence; that is, the requirement of not acting against the persons' interests – has, in the above studies, been

expressed by, for instance: (a) the consulting an expert factor (do not make a decision lightly) in Teisseyre et al.'s (2009) study, (b) the life expectancy factor (do not kill someone who could still live some time) in Teisseyre et al.'s (2005) study, and (c) the boyfriend's personal wishes factor in Muñoz Sastre et al.'s (2007) study. Like the beneficence-type factors, these factors also had effects on acceptability judgments, but these effects were less than those of the autonomy-type factors.

The effect of the fourth factor – justice – has been studied through the effects of: (a) the gender factor and the etiology factor in Morales et al.'s (2011) study, (b) the type of the child's health problem factor in Teisseyre et al.'s (2009) study, and (c) the organ donation factor in Teisseyre et al.'s (2005) study. According to the justice principle, all patients must be treated in a way that is non-discriminative. In all studies, these factors had typically no effect (or just minor effects) on acceptability judgments. In other words, people's judgments of acceptability were not influenced by factors that should be irrelevant in justice considerations (e.g., gender).

It must also be noted that, in all studies that have been conducted, clear judgment rules have been evidenced. In other words, acceptability judgments obeyed stable rules; they were not expressed on a casual basis. The existence of these stable judgment rules is another important aspect of the results that illustrates that the justice principle was an important one in participants' minds. Justice implies the application of stable rules.

Briefly stated, two of the four principles — autonomy and justice — seem to dominate lay people's shared beliefs about bioethics issues. The principle of autonomy is clearly central, and the principle of justice is subordinated to the autonomy principle: Each patient, irrespective of his/her characteristics, has the right to have his/her autonomy of decision respected. The two other principles – benevolence and non-maleficence – appear as peripheral ones. Once the autonomy principle is respected and the justice principle applies, acting in a benevolent way and not acting in a malevolent way become simple implications. It is only when the patient has no autonomy or has lost his/her autonomy that these two principles (re)gain importance.

This hierarchy of principles is, however, liable to reflect the occidental culture in which most of these studies have been conducted. A study conducted in Kuwait on the acceptability of physician-assisted-suicide (Ahmed, Sorum & Mullet, 2009) suggests that this hierarchy may not be found in other cultures; namely, in Kuwait, the autonomy principle seemed to play only a very minor role or no role at all. Another study, which was conducted in India (Kamble, Sorum & Mullet, 2011), showed

that the autonomy principle had only a weak effect. It was clearly superseded by the age factor (the Karma principle). Much more studies should be conducted in non-Western samples. Functional Measurement is, hopefully, ideally suited to these cross-cultural enterprises (see Mullet et al., this issue).

REFERENCES

- Ahmed, R. A., Sorum, P. C., & Mullet, E. (2010). Young Kuwaitis' views of the acceptability of physician-assisted-suicide. *Journal of Medical Ethics, 36*, 671-676.
- Anderson, N. H. (2008). *Unified social cognition*. New York: Psychology Press.
- Aristotle (2004). *The Nichomachean ethics*. London : Pinguin Books.
- Berlinguer, G. (2003). *Everyday bioethics*. Amityville, NY : Baywood.
- Esterle, M., Muñoz Sastre, M. T., & Mullet, E. (2008). Judging the acceptability of sexual intercourse among persons with learning disabilities: French lay people's viewpoint. *Sexuality & Disability, 26*, 219-227.
- Esterle, M., Muñoz Sastre, M. T., & Mullet, E. (2011). Acceptability of sexual relationships between elderly people residing in nursing homes. *Sexuality & Disability, 29*, 157-164.
- Frileux, S, Lelièvre, C., Muñoz Sastre, M. T., Mullet, E., & Sorum, P. (2003). When is physician assisted suicide or euthanasia acceptable? *Journal of Medical Ethics, 29*, 330-336.
- Frileux, S., Muñoz Sastre, M. T., Antonini, S., Mullet, E., & Sorum, P. C. (2004). Acceptability for French people of physician-assisted suicide. *Death Studies, 28*, 941-953.
- Guedj, M., Gibert, M., Maudet, A, Muñoz Sastre, M. T., Mullet, E., & Sorum, P. C. (2005). The acceptability of ending a patient's life. *Journal of Medical Ethics, 31*, 311-317.
- Guedj, M., Muñoz Sastre, M. T., Mullet, E., & Sorum, P. C. (2006). Under what conditions is the breaking of confidentiality acceptable to lay people and health professionals? *Journal of Medical Ethics, 32*, 414-419.
- Guedj, M., Muñoz Sastre, M. T., Mullet, E., & Sorum, P. C. (2009). Is it acceptable for a psychiatrist to break confidentiality to protect a wife from violence? *International Journal of Law and Psychiatry, 32*, 108-114.
- Guedj, M., Sorum, P. C., & Mullet, E. (2012). French lay people's views regarding the acceptability of involuntary hospitalization of patients suffering from psychiatric illness. *International Journal of Law and Psychiatry*, in press.
- Hofmans, J. & Mullet, E. (in press). Towards unveiling individual differences in different stages of information processing: A clustering-based approach. *Quality and Quantity*.
- Jacoby, L. & Siminoff, L. A. (2008) Introduction. In L. Jacoby & L. A. Siminoff (Eds.), *Empirical methods for bioethics: A primer* (pp. 1-10). New York, NY: Elsevier.
- Kamble, S., Sorum, P. C., & Mullet, E. (2011). *Young Indians' views of the acceptability of physician-assisted-suicide*. Unpublished paper.
- Kleespies, P. M. (2004). *Life and death decisions*. Washington, DC : APA.
- Mas, C., Sorum, P. C., & Mullet, E. (2010). French general practitioners vary in their attitudes toward treating terminally-ill patients. *Palliative Medicine, 24*, 60-67.
- Morales, G., Lopez Ramirez, E. O., Esterle, M., Muñoz Sastre, M. T., & Mullet, E. (2010). Judging the acceptability of sexual intercourse among persons with learning disabilities: A Mexico-France comparison. *Sexuality & Disability, 28*, 81-91.

- Morales, G., Lopez Ramirez, E., & Mullet, E. (2011). Acceptability of sexual relationships among people with learning disabilities: Family and professional caregivers' views in Mexico. *Sexuality and Disability, 29*, 165-174.
- Muñoz Sastre, M. T., Gonzalez, C., Lhermitte, A., Sorum, P. C., & Mullet, E. (2010). Do ethical judgments depend on the type of response scale? Comparing acceptability versus unacceptability judgments in the case of Life-Ending procedures. *Psicologica: International Journal of Methodology and Experimental Psychology, 31*, 529-539.
- Muñoz Sastre, M. T., Mullet, E., & Sorum, P. C. (2011). Breaking bad news: The patient's view. *Health Communication, 26*, 649-655.
- Muñoz Sastre, M. T., Pecarisi, C., Legrain, E., Mullet, E., & Sorum, P. C. (2007). Acceptability in France of induced abortion for adolescents. *American Journal of Bioethics, 7*, 26-32.
- Muñoz Sastre, M. T., Pecarisi, C., Legrain, E., Mullet, E., & Sorum, P. C. (2007). Response to open peer commentaries on "Acceptability in France of induced abortion for adolescents". *American Journal of Bioethics, 7*, W3.
- Muñoz Sastre, M. T., Sousa, S. de, Bodi, E., Sorum, P. C., & Mullet, E. (in press). Under what conditions would people be willing to make a living organ donation? *Psychology, Health & Medicine*, in press.
- Olivari, C., Muñoz Sastre, M. T., Guedj, M., Sorum, P. C., & Mullet, E. (2011). Breaking patient confidentiality: Comparing Chilean and French viewpoints regarding the conditions of its acceptability. *Universitas Psychologica: Pan American Journal of Psychology*.
- Palmer, M. (2005). *Moral problems in medicine*. Cambridge, UK : Lutterworth.
- Rachels, J. (2010). *Elements of moral philosophy*. Boston: McGraw Hill.
- Sheldon, W. (2008). The role of empirical data in bioethics: A philosopher's view. In L. Jacoby & L. A. Siminoff (Eds.), *Empirical methods for bioethics: A primer* (pp. 13-20). New York, NY: Elsevier.
- Teisseyre, N., Mullet, E., & Sorum, P. C. (2005). Under what conditions is euthanasia acceptable to lay people and health professionals? *Social Science and Medicine, 60*, 357-368.
- Teisseyre, N., Duarte dos Reis, I., Sorum, P. C., & Mullet, E. (2009). The acceptability among French lay persons of ending the lives of damaged newborns. *Journal of Medical Ethics, 35*, 701-708.
- Teisseyre, N., Vanraet, C., Sorum, P. C., & Mullet, E. (2010). The acceptability among lay persons and health professionals of ending the life of damaged newborns. *Monash Bioethics Review, 29*, 1201-1224.

(Manuscript received: 28 September 2011; accepted: 18 December 2012)