STUDIA UNIVERSITATIS MOLDAVIAE, 2018, nr.9(119)
Seria "Științe ale educației" ISSN 1857-2103 ISSN online 2345-1025 p.166-172

CZU: 159.9:072.59

GENDER AND AGE DIFFERENCES IN THE TWO-DIMENSION MODEL OF UTILITARIANISM

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Although most studies exploring utilitarianism focused on moral dilemmas, a two dimensional model (2 D) was conceptualized by Kahane et al. (2018) in order to assess both positive and negative sides of utilitarianism, namely instrumental harm (IH) and impartial beneficence (IB). Within this theoretical framework, the Oxford Utilitarian Scale (OUS) was used to explore gender and age difference in a sample of Romanian adolescents, for both IH and IB dimensions. Our results revealed an important age effect on both IH and IB, but no significant gender effect, contrary to previous findings. Younger male participants scored higher than the older ones in both utilitarian dimensions. Possible explanations are discussed within Gilligan's care versus justice theory (1982).

Keywords: *utilitarianism, instrumental harm, impartial beneficence, gender, age*.

DIFERENȚE DE VÂRSTĂ ȘI GEN ÎN MODELUL BIDIMENSIONAL AL UTILITARIANISMULUI

Deși majoritatea studiilor care explorează utilitarismul se axează pe dilemele morale, un model bidimensional (2 D) a fost conceptualizat de Kahane et al. (2018), pentru a evalua atât aspectele pozitive, cât și cele negative ale utilitarismului, și anume – răul instrumental (IH) și impartialitatea (IB). În acest cadru teoretic, Scala utilitarianistă Oxford (OUS) a fost utilizată pentru a explora diferența de gen și vârstă într-un eșantion de adolescenți români, atât pentru dimensiunile IH, cât și pentru IB. Rezultatele noastre au arătat un efect important al vârstei atât asupra IH, cât și asupra IB, dar nu și un efect semnificativ al genului, contrar constatărilor științifice anterioare. Participanții mai tineri, de gen masculin, au obținut scoruri mai ridicate la ambele dimensiuni ale utilitarianismului, comparativ cu participanții mai în vârstă. Posibile explicații sunt discutate prin prisma teoriei formulate de Gilligan (1982).

Cuvinte-cheie: *utilitarism, violență instrumentală, prosocialitate imparțială, gender, vârstă*.

Introduction

Would you or would you not smother your baby to death in order to save a large group of people, including yourself? If your answer is a positive one, you should know that sixty percent of people [1] made this choice when faced with the same hypothetic situation, known as "the crying baby dilemma" [2]. Though, over time, many variants of a definition have emerged, utilitarianism is generally held to be the view that the morally right action is the action that produces the most good. While the utilitarian vision argues that what is morally required is best decided by one simple rule-whether or not an action brings the greatest total well-being, deontological approaches describe a set of rules that serve as constraints on what kinds of actions are considered to be moral [3]. Therefore, you should also know that if your answer was a positive one, it was actually a utilitarian one, fitting into the spectrum of one of the most productive theories in terms of criticism, but also support. What if the crying baby was, instead, a man that you could sacrifice in order to save other five, on a railway? A runaway train will certainly kill the five if you don't, as a bystander, push a stranger from the pedestrian walkway, onto the tracks. What would you do, would you push him?

1. Utilitarianism research

A large number of sacrificial dilemmas such as the crying baby dilemma or this one, known as "the footbridge dilemma" [4] or have been used in order to identify various mechanisms associated to either utilitarian or deontological thinking. Also, a rather high number of studies explored utilitarianism in relation to individual differences on personality, measures or patterns of brain activity, age and gender differences [5]; psychopathy, aggressive or antisocial tendencies [6-8]. Greene et al. [9] tested two theories of moral development: a traditional one, emphasizing the role of controlled cognition in mature moral judgment, and a second one, focused on intuitive and emotional processes. Their results suggest that cognitive load selectively interferes with utilitarian moral judgment. At the same time, Suter & Hertwig's results [10] showed that utilitarian responses were less frequent under time pressure, at least for a subset of their dilemmas. On the other hand, in three experiments, Tremoliere & Bonnefon [11] showed that that utilitarian responses can

become effortless, even when they involve to kill someone, as long as the kill–save ratio is efficient (e.g., 1 is killed to save 500). Koenigs et al. [12] showed that damage to the prefrontal cortex increases utilitarian moral judgements. More specifically, they tested patients with emotion-related damage in the ventromedial prefrontal cortex (VMPFC) using moral dilemmas [13,14]. Still, their findings are subject to different descriptive theories [15,16], expanding the general explanatory spectrum of a field as complex as morality. Thomas et al [17] found that patients with ventromedial prefrontal cortex lesions were more likely than brain-damaged and healthy comparison participants to endorse utilitarian outcomes on high-conflict dilemmas regardless of whether the dilemmas (1) entailed direct versus indirect personal harms, and (2) were presented from the Self versus Other perspective. Additionally, the authors discovered that all groups were more likely to endorse utilitarian outcomes in the Other perspective as compared to the Self perspective. In three experiments, Tremoliere & Bonnefon [18] showed that that utilitarian responses can become effortless, even when they involve killing someone, as long as the kill–save ratio is efficient (e.g., a person is murdered to save another five hundred). Lucas & Livingston [19] demonstrated that feeling socially connected increases utilitarian choices in sacrificial or high-conflict moral dilemmas, such as the footbridge one. Their results are in line with other social relational models of moral judgment, such as the one documented by Rai & Fiske [20], in which moral decisions depend on the social motivations and relational frames of those involved.

Still, even though a large number of studies have already explored different biological and psychological paths related to utilitarianism, only a few of them have explored age and gender effects. Friesdorf et al [21] conducted a meta-analytic research investigating gender differences in moral reasoning. More specifically, they explored gender differences in responses to moral dilemmas, showing that men have a stronger preference for utilitarian over deontological judgments than women. Their findings also suggest that women experience stronger affective reactions to harm, emphasizing that gender differences in moral judgment are driven by affective responses to harm rather than cognitive evaluations of end results. Also, Buciarelli [22] found that female children are more utilitarian than female adults, in a series of experiments involving three age groups (children, adolescents and adults) and a set of classical moral dilemmas. All of the age groups differed in terms of cognitive abilities and resources supporting reasoning abilities.

2. The Two Dimensional Model (2 D)

Most of the research conducted in studying utilitarianism has relied on sacrificial moral dilemmas, such as the trolley-type [23]. More specifically, in these hypothetical moral dilemmas participants must decide whether to sacrifice the life of one person in order to save the lives of a greater number. If they choose this option, they're making an utilitarian judgement, opposite to the deontological one, that is rejecting this possibility. Still, a number of researches in the moral field argued that this particular approach in studying utilitarianism is problematic because "endorsing harm in the unusual context of sacrificial dilemmas need not express anything resembling an impartial concern for the greater good" [24]. Therefore, the authors conclude, utilitarian judgments in sacrificial moral dilemmas do not reflect impartial concern for the greater good. Other studies on both clinical and non-clinical samples support the idea that a utilitarian choice in typical sacrificial dilemmas cannot be carried out to other contexts, therefore, questioning the assumption it is actually driven by a general concern for maximizing the good [25, 26]. Moreover, Kahane et al. [27] claim that the sacrificial dilemmas paradigm focuses almost exclusively on the negative side of utilitarian decision-making, ignoring the positive, impartial and altruistic core of a utilitarian approach to ethics. Therefore, they proposed a new conceptual framework for determining and analyzing utilitarian tendencies: The Two Dimensional (2D) model, a model which distinguishes between positive and negative components of utilitarian decision-making. They also developed and validated The Oxford Utilitarianism Scale (OUS), designed to address important limitations of the sacrificial dilemmas paradigm, while studying individual differences in proto-utilitarian tendencies. Basically, their 2 D model emphasizes the two distinctive patterns of moral thought and judgment involved in utilitarianism, describing *instrumental harm*, the negative dimension, and *impartiality*, the positive one.

Impartiality, the positive dimension utilitarianism mostly ignored by researchers, derives from the fundamental philosophy of utilitarianism, which lies in the impartial maximization of the greater good. Therefore, according to the utilitarian principles, we should treat the well-being of every individual as equal, regardless of the relation, status or other variables, even when implying self-sacrifice. Still, *impartiality* differs from altruism or self-sacrifice, requiring complete detachment from personal connections regarding reasons for

helping, giving, sacrificing. For example, sometimes people engage in acts of extreme self-sacrifice, such as sacrificing their own lives in order to save, protect or promote the good of their own family or friends. Still, these acts cannot be accounted as acts of impartial beneficence, since they target close recipients, therefore contradicting the utilitarian vision, which doesn't encourage this kind of favoritism. Finally, *impartiality* aims to maximize the well-being of all persons, regardless of personal, emotional, spatial, or temporal distance [28]. Impartial beneficence has been associated with was associated with greater levels of empathic concern, suggesting an important role for emotion in the core positive dimension of utilitarianism [29], in line with previous findings [30], but contradicting others that consider impartial beneficence as a concequence of cold reason [31]. Also, impartial beneficence was found to be associated with greater support for welfare-based concern about the environment, and higher levels of identification with the whole of humanity, and negatively associated with instrumental harm. On the other hand, *instrumental harm* refers to the willingness to harm and even kill others when this particular damaging act is required in order to achieve a better outcome. For example, the classical sacrificial footbridge dilemma offers a well-known framework for such a response: someone pushes an innocent person off a footbridge to save a greater number of lives (five people, in the original version of the dilemma). Other related and maybe more realistic examples lie in everyday life, for instance in the public opinions of those who believe that torture is necessary to get consistent and relevant information that will later save a large number of lives. Still, as emphasized by Everett et al. [32], people usually prefer fairness over unfairness, being genuinely more attracted to impartiality [33, 34]. People will generally choose options that help them seem impartial, choosing equity over efficiency when the two are in conflict [35].

Only a few studies have, therefore, documented the two dimensions of utilitarianism, as presented by Kahane et al. [36]. While the vast majority of studies used sacrificial dilemmas in order to assess utilitarianism, exploring mostly its negative dimension, that is instrumental harm, further research is required to explore its positive dimension, as outlined above. Moreover, the vast majority of utilitarian studies aimed at exploring the adult population, and less of the adolescents. Some studies have focused on the utilitarian tendencies of younger school children (_____), but few of them have actually focused on adolescents. Even though we know from previous data that the older we grow, the more deontological we become [37], some questions regarding age, gender and their interaction effect on instrumental harm and impartial beneficence still remain unanswered.

Therefore, the current research focuses on the 2 D Model, aiming to 1) expand the understanding of the two dimensions documented by Kahane et al. [38], with evidence from a sample of adolescents, and also 2) to explore gender and age differences on both instrumental harm and impartial beneficence. Based on previous data [39]; I hypothesized that 1) boys would score higher than girls on the *instrumental harm* dimension and 2) given the fact that children are considered more utilitarian than adults, as suggested by Buciarelli [40], our results would indicate a significant age effect on both instrumental harm and impartial beneficence dimensions.

3. Method

Participants

The sample included 334 participants, (56% girls) enrolled in a public school from a large city in North-East Romania. Their age ranged from 12 to 18 (M = 14.08; SD =1.65). Most participants came from lower-middle class to middle-class families.

Procedure

An Invitation Letter describing the study was sent to the school authorities and principal, and also to the adolescents' parents, who first approved through a written, informed consent their children voluntarily participation to the present research. Ethics approval was also obtained from the Research Ethics Committee at the University. The average time for answering the questions was 10 minutes. Also, a demographics questionnaire assessing gender and age was used. All participants were informed about the confidentiality and autonomy of their answers, being encouraged to answer with honesty to the questions contained by the three instruments. Also, they were informed that they could quit the session whenever they wanted. The survey took place in one of the classrooms at school, on a regular school day, in the presence of an experienced research assistant.

Measures

Sacrificial dilemmas can only assess attitudes towards instrumental, therefore – only the dark side of utilitarianism. The present research used The Oxford Utilitarianism Scale – OUS [41], measuring individual differences in both utilitarian tendencies, instrumental harm and impartial beneficence. The OUS measures an overall pattern of moral views and judgments, and not behavior or intentions to act. It contains nine items divided into two subscales, and participants answer on 7-point scale from "Strongly disagree" to "Strongly agree". The OUS-IP subscale consists of five items that measure endorsement of the impartial maximization of the greater good, even at the cost of personal self-sacrifice. Example items include If the only way to save another person's life during an emergency is to sacrifice one's own leg, then one is morally required to make this sacrifice" or "From a moral perspective, people should care about the well-being of all human beings on the planet equally; they should not favor the well-being of people who are especially close to them either physically or emotionally". The OUS-IH subscale consists of four items that all tap a willingness to cause harm in order to bring about the greater good. Example items from OUS-IH include "If the only way to ensure the overall well-being and happiness of the people is through the use of political oppression for a short, limited period, then political oppression should be used" or "It is permissible to torture an innocent person if this would be necessary to provide information to prevent a bomb going off that would kill hundreds of people". Preliminary analysis on OUS' internal consistency indicated a 15 inter-item correlation after removing two of the scales' items. Therefore, seven items of the OUS were used in order to assess the two dimensions of utilitarianism.

Results

The 21 version of the IBM SPSS Statistics program was used in order to explore gender and age differences in both dimensions of the 2 D Model, instrumental harm and impartial beneficence. Given the fact that both variables were not normally distributed, we used non-parametric tests for all the analysis. First, we explored gender differences for the two dimensions of utilitarianism. When measuring differences for both instrumental harm and impartial beneficence, Mann-Whitney test results showed no significant differences between boys and girls. In order to explore age differences, I used the median test to create two groups of participants. Mann-Whitney test results showed that younger participants scored higher than the older ones in terms of impartial beneficience (U = 7994, p = .01), and also when exploring the instrumental harm dimension (U = 7789, p= .004). Still, the age differences regarding both impartial beneficence and instrumental harm were only observed in male participants. Furthermore, I explored the effect of gender and age on both utilitarian dimensions, conducting a ANOVA test. Results revealed a significant age effect on the impartial beneficence dimension, F (1, 333) = 5.385, p= .02. Compared to older participants, younger adolescents scored higher on impartial beneficence. No interaction effect between age and gender was found on impartial beneficence. Also, results showed a significant age effect on instrumental harm, F (1,333) = 5.520, p=.01. Therefore, compared to older participants, younger adolescents scored higher on instrumental harm. Still, no significant interaction effect between age and gender was found for the instrumental harm dimension. In order to deepen the analysis, a total score for utilitarianism was computed. Gender and age differences were then explored using the new created variable, and results showed that male, younger adolescents scored higher on utilitarianism than older male adolescents, t (185) = 3.905, p<.001. No significant age differences were found for the female groups when exploring the total score for utilitarianism.

Discussion

The present study was built on Kahane's et al. [42] 2D Model, a theory that aims at highlighting two distinct dimensions of utilitarianism: the positive, namely impartial beneficence, and the negative one, instrumental harm. On the basis of the two dimensions, we investigated the gender and age differences in a population of adolescents, and also their combined effect on utilitarian moral judgments, using the OUS, a different approach than the usual one, that being moral dilemmas. In line with previous studies [43, 44] we assumed that boys would score higher than girls on the instrumental harm dimension and that our results would confirm previous findings, which suggested that children are more utilitarian than adults, on both dimensions of the 2 D Model. Our results din not confirm the first hypothesis, data suggesting no significant differences between female and male adolescents, on either of the two dimensions related to the 2 D Model. Our second assumption was confirmed though, an important age effect was found to be significant on both instrumental harm and impartial beneficence. More specifically, younger male participants scored higher than the older ones in both utilitarian dimensions. Moreover, when exploring utilitarianism using the total

score of the OUS, therefore a sum of both dimensions, results also showed that male, younger adolescents scored higher on utilitarianism than older male adolescents.

People usually feel more connected to the idea of impartiality, choosing fairness to unfairness, as previous suggested by a number of studies [45,46] and will choose equity over efficiency in order to appear impartial [e.g., 47,48]. Still, our results show that, the younger the participants, the higher the preference for impartial beneficence. What happens, as we grow old, that changes our perspective? Our results confirm that the positive dimension of utilitarianism, that is the impartial maximization of the greater good, treating the well-being of every individual as equally, regardless of the relation, status or other variables, even when implying self-sacrifice, is higher on younger adolescents and less frequent among adolescents closer to adulthood. But still, our same findings suggest the same age effect for males only when exploring instrumental harm or a total score for utilitarianism. Considering the gender perspective, our results confirm previous findings [49, 50] which suggest that males are more utilitarian than females, as well as children are more utilitarian than adults. Although they may seem contradictory, the two dimensions are, in fact, complementary and form the same whole - utilitarianism. Therefore, the present results shape the basis of gender-related perspective which states that boys are, in fact, more utilitarian than adults.

One possible explanation lies in Gilligan's theory, which states that males and females may have different moral orientations because of their different socialization processes. Consequently, according to Gilligan, males are encouraged towards independence and conflict solving – therefore, justice, while females are encouraged towards caring. If we were to assume possible analogy between the two theoretical models, the 2D model theorized by Kahane et al. [51] and Gilligan's theory, we may see a conceptual similarity between impartial beneficence and Gilligan's documented sense of justice, respectively a theoretical attribution of the positive dimension of utilitarianism to males rather than females. Nevertheless, this assumption is purely intuitive, but it can be a valid, interesting explanation, as well as a starting point for further studies focused in utilitarianism and moral reasoning. Gilligan [52] stressed that research does not put enough emphasis on the various morality differences between boys and girls, especially during adolescence, a critical period in their moral development. As Kalsoom et al [53] pointed out, one conclusion Gilligan formulates regarding this issue is that "as girls enter adolescence, they face a struggle with the masculine, autonomous wall of western culture". Therefore, our results could be explained, on one side, by Gilligan's care versus justice theory, and on the other hand, by the current trends in both Romanian and Western society in general, trend which encourages (sometimes aggressively) female independence and gender equality. In order to overcome the tradition of protecting girls, to encourage their maternal instincts rather than their professional lives, today's teenagers are moving towards a masculinization of their own genre, aiming to remove any imbalance of the rather fragile male-female equilibrium. This tendency appears even more pronounced in today's democratic Romanian society, in transition after its communist past. However, unexpectedly, the present findings contradict common moral development theories, such as Kohlberg's [54] model, which states that self-sacrifice and the impartial maximization for the greater good is proof of higher moral development, which usually appears at an older age. Results regarding the impartial beneficence preference of younger adolescents correlate with level 6 in Kohlberg's model, which is governed by universal ethical principle orientations: decisions made based on principles such as justice, reciprocity and human rights [55]. Still, data emerged from the present study only support this theory for male younger adolescents, and not for females as well.

Our results reflect a new perspective regarding gender and age differences in utilitarian judgement, which contributes to the better understanding of both instrumental harm and impartial beneficence. Still, some limitations need to be addressed. First, although all participants had been informed that there are no right or wrong answers, there is a possibility that subjects may have not answered honestly all the questions in the study. Given the sensitive content of the OUS' questions, there may have been a tendency of respondents to answer in a way that they believed it is socially acceptable, rather than actually showing their true attitude or behavior [56]. Some methodological challenges of sensitive topic research with adolescents have also been pointed out by Rodriguez [57], and among them lies one that may have had an impact on the present results as well: physical distance. Jones [58] explained that virtual space allows emotional distance, removing the potential judgement between the researcher and the participant. Given the fact that the researcher was a known person to the sample of adolescence from the present study, even though they were explained the rules about the confidentiality of their answers, some of them may have not have reflected their true attitude. Another possible limitation for the present data is the OUS scale, an instrument that has not yet been vali-

dated on Romanian population. Further studies should consider validating the scale and exploring differences in utilitarian moral judgement, using the OUS, for extended age groups, such as young children, adolescents and adults. Our findings represent a genuine reflection upon utilitarianism, important as both a basis for future empirical studies and a theoretical starting point for a comprehensive overview of different theories on the moral reasoning.

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Prezentat la 25.10.2018