

# Moral Reasoning and Behaviour in Adulthood

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**Abstract**—This study aimed at assessing whether and to what extent moral judgment and behaviour were: 1. situation-dependent; 2. selectively dependent on cognitive and affective components; 3. influenced by gender and age; 4. reciprocally congruent. In order to achieve these aims, four different types of moral dilemmas were construed and five types of thinking were presented for each of them – representing five possible ways to evaluate the situation. The judgment criteria included selfishness, altruism, sense of justice, and the conflict between selfishness and the two moral issues. The participants were 250 unpaid volunteers (50% male; 50% female) belonging to two age-groups: young people and adults. The study entailed a 2 (gender) x 2 (age-group) x 5 (type of thinking) x 4 (situation) mixed design: the first two variables were between-subjects, the others were within-subjects. Results have shown that: 1. moral judgment and behaviour are at least partially affected by the type of situations and by interpersonal variables such as gender and age; 2. moral reasoning depends in a similar manner on cognitive and affective factors; 3. there is not a gender polarity between the ethic of justice and the ethic of care/altruism; 4. moral reasoning and behavior are perceived as reciprocally congruent even though their congruence decreases with a more objective assessment. Such results were discussed in the light of contrasting theories on morality.

**Keywords**—Contextual-pragmatic approach to morality, ethic of care, ethic of justice, Kohlbergian approach, moral behaviour, moral reasoning.

## I. INTRODUCTION

THE cognitive-developmental approach (e.g. [1]-[8]) has offered the most important contribution to the psychological study of morality. According to this perspective, moral development evolves alongside with cognitive development. The transition from anomy to morality is assumed to be enabled by the progressive maturation of the cognitive structures that provide the tools through which the increasingly sophisticated criteria for the formulation of moral judgment may develop. In this domain, Kohlberg [3]-[5] has built the most complete theoretical model, which has served as touchstone for all the subsequent theories. In this model, moral development is structured through a hierarchical and invariant stage organization, evolving from a selfish and instrumental viewpoint to the perspective based on interdependence and mutual respect to get to the point where morality identifies with the sense of justice. In this model, moral development is structured through a hierarchical and invariant stage

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More specifically, moral development is viewed to unfold from childhood to adulthood through three levels - pre-conventional, conventional, and post-conventional - each of which encompasses two stages: the pre-conventional level includes stage 1 (prize-punishment orientation, in which authority and rules are respected for selfish reasons) and 2 (individualistic and instrumental orientation based on *do ut des* principle); conventional level comprises stages 3 (interpersonal accord and conformity orientation, aiming at maintaining good interpersonal relationships and at living up to social expectations and roles) and 4 (social-order maintaining orientation, in which the focus is on allowing a well functioning society by following the rules and doing one's duty); post-conventional level covers stages 5 (orientation towards social contract and individual rights, in which the focus is on the rules that allow the society to be organized in accordance with the fundamental rights of the person) and 6 (universal ethical principles orientation, i.e. the principles valid in every age and culture through which justice can be achieved). These stages are achieved in an invariant sequence: a new stage displaces its predecessor because it provides better cognitive tools to deal with moral problems. No stage can be skipped and no retrogression to lower stages is predicted [9]. The level at which moral development stops varies across individuals: however, the higher levels will be reached only by a small number of people. Kohlberg posits two factors as responsible for moral development: the increase in cognitive abilities, which allows to improve the moral reasoning at the basis of moral judgment and subsequent behaviour, and the perspective-taking process, acquired through social interaction. Although this second factor accounts for social variables such as education, socio-economic status etc., the nature of Kohlberg's theoretical model remains rigorously cognitive and rational: morality is viewed as largely independent from affective factors and moral behaviour is considered as a necessary consequence of moral judgment. Kohlberg and his colleagues - [5], [9], [10] - share the Platonic assumption according to which knowing what the good is equates with doing the good.

The large amount of research aiming to evaluate Kohlberg's model produced contrasting results. The cross-cultural studies (for review see [11]) devoted to test the assumption about the universality and the invariant stage sequence of moral development found that in many cultures from late childhood to early adolescence the shift from the instrumental (stage 2) to mutualistic (stage 3) orientation took place. On the contrary, a great cross-cultural variability was found for the first and the

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final stages of Kohlberg's taxonomy. Many authors (e.g. [1], [2], [8], [11], [12]) agree that the post-conventional level is not a genuine developmental stage but rather a meta-cognitive reflection on the principles underlying moral judgment, which is only made possible by a high cultural level, when living in a complex society.

In point of fact, the Kohlbergian instrument of research, the Moral Judgment Interview (MJL, [9]), tends to assess the highest individuals' levels of reasoning since the interviewed are faced with complex moral dilemmas and are requested to explicate and clarify the criteria on which their judgment is based. Thus, the MJL might produce the post-conventional level of moral development as methodological artifact. Several authors [13]-[16] have noted that Kohlberg's "philosophical" dilemmas are infrequent in real life. In the Warks and Krebs' [14] classification of moral dilemmas the "philosophical" ones are sometimes discussed but rarely experienced, whereas the commonly experienced dilemmas are encompassed in the following categories: antisocial (reaction to transgressions, reaction to temptations); social pressure; prosocial (reaction to conflicting demands; reaction to the needs of others). These types of dilemmas could be easily dealt with by referring to the pre-conventional and conventional levels of Kohlberg taxonomy. In particular, antisocial dilemmas tend to elicit the stage 2 of moral reasoning, based on individualistic and instrumental orientation, whereas prosocial dilemmas tend to generate the stage 3, based on the maintenance of interpersonal relationships [14],[17]-[19]. Only more complex dilemmas, such as those involving a conflict between moral values or a social pressure to act in a manner not consistent with one's values, elicited in some studies - [15], [20] - reasoning modalities corresponding to those of stages 4 (social-order maintaining orientation) and 5 (orientation towards social contract and individual rights). These results bring into question the Kohlberg's stage conception of moral development and support an additive vision - already advanced by Rest and his colleagues [7], [21] - according to which new levels of moral development are added to the previous ones without replacing them. Moreover, they raise the more general problem of explaining why moral judgment depends on the situation. In the social constructivism perspective, Harré [22] argues that the social organization is not guided by general rules but rather by different "moral order" related to specific situations: for example, the business community would be governed by a moral order activating the stage 2 of moral reasoning, marriage would be guided by the stage 3 of moral order, the legal system by the stage 4. Thus, the situation-dependence of moral judgment would be a product of the existence of different moral orders. Similar positions, although in a different theoretical framework, were expressed by Clark and Mills [23] and Fiske [24].

The studies investigating the congruence between moral reasoning and behavior generally failed to find it (e.g. [25], [26]). Post-Kohlbergian authors such as Blasi [27], [28] and Rest [7] have abandoned the idea that moral action necessarily derives from moral reasoning and have elaborated specific models of moral behavior in which attention is paid to emotional, motivational and personality factors that contribute to determine whether individuals will behave or not in ways

consistent with their moral judgment. Other authors [29] have raised the question whether the highest levels of moral reasoning postulated by Kohlberg are needed to act in a morally irreproachable way (for a review, see [30]). It is worthy to remember that in the field of social learning theories, Bandura [31] has developed the construct of moral disengagement to explain the discrepancies between the cognitive adherence to ethical principles and the plan of action. At the behavioural level moral principles can be disregarded by means of specific internal mechanisms of self-regulation that allow to justify the action that is incompatible with one's own moral code, preventing the onset of cognitive conflict and thus preserving one's self-esteem.

The revised Kohlberg model by Carol Gilligan [32] is situated in a feminist perspective. Gilligan has stated the existence of two different gender-related modalities of moral reasoning: the male-oriented modality is based on the notion of equal rights and of obligatory nature of the moral norm; the female-oriented modality is based on the preservation of interpersonal relationships by giving time and care to others, understanding their needs and wishes and being committed. According to Gilligan, Kohlberg taxonomy classifies the ethic of care as the stage 3 of moral reasoning, without acknowledging its autonomy and specificity. Differently, in Gilligan's opinion, such ethic possesses its own developmental sequence, which goes from the exclusive interest for one's own needs to the awareness that they have to be balanced out with the others' needs, passing through a mainly-other-oriented phase. Again, the results of empirical studies are not homogeneous: Gilligan's developmental sequence has been confirmed in cross-sectional studies (for review, see [33]), but the hypothesis of the female specificity of the ethic of care has not been corroborated, since a series of data rather seem to show the presence of different ethics according to different kinds of dilemma (for review see [26], [34], [35]).

Hoffman - [36], [37] - has laid the emphasis on the ethic of care in his theory of moral development centered on empathy, which, in its both cognitive and affective components (to put oneself in the situation of the other, and to feel as the other respectively) plays a pivotal role as the affective source of moral motivation. Hoffman perspective integrates psychoanalytical contributions to the theories of social learning and highlights the process of internalization of societal norms and the role played by the cognitive, affective-relational and educational modalities adopted by parents, as the main agents of moral education, in enhancing or hampering such process. Thus moral development is seen not so much as the result of cognitive maturation, but rather as the outcome of the vicissitudes leading to the structuring of personality as a whole. Hoffman highlights two main moral orientation styles, internal and external, which are not so much nor exclusively linked to different phases of cognitive development, but mainly to divergent cognitive-affective configurations of child-experience organization dynamics. Later on Hoffman [38] admitted that the ethic of care can be based not only on empathy but also on the sense of justice which prescribes to extend the commitment to others' needs to strangers as well.

To a fundamentally different position belongs Haidt's

social-intuitionist model [39]-[41]: moral judgment would mostly be the result of an automatic affective assessment of the situation – to be understood in terms both of the evolutionary itinerary of the species, and of the more immediate socio-cultural, relational context. Moral reasoning would be, instead, a *a-posteriori* rationalization of the initial assessment. However, by emphasizing the affective and unconscious components, such a perspective, as Pizarro and Bloom [43] highlighted, may underplay the role of rationality in the complex decisions that individuals have sometimes to take in their lives, when the variety of interests and values require to exert a second level control on automatic, affective processes to decide what is right and why.

In sum, as Krebs and Denton - [44], [45] - underline when asking for a more pragmatic approach to morality, flexibility is an important aspect of moral maturity. Although the general purpose of moral norms is to guarantee social cooperation, the plurality of situations in which individuals must make moral choices requires the activation of diversified situation-specific decisional criteria, in tune with the social cooperation in question.

## II. OVERVIEW OF THE PRESENT STUDY

This study aimed at assessing whether and to what extent moral judgment and behaviour were: 1. situation-dependent; 2. selectively dependent on cognitive and affective components; 3. influenced by interpersonal variables such as gender and age; 4. reciprocally congruent.

In order to achieve these aims, four different types of moral dilemmas were presented, each of which investigated a specific aspect of moral domain, which is very likely to occur in real life. If moral judgment and behaviour were independent from situational variables, as Kohlberg's model posits, the type of dilemmas would not affect them; the opposite would happen if they were context-sensible, as other authors (e.g. [22], [39], [43], [44]) posit. To investigate the respective weight of cognitive and affective factors on moral judgment, for each dilemma five types of thinking, representing possible ways to evaluate the situation, were presented. The judgment criteria included selfishness, altruism, sense of justice, and the conflict between selfishness and the two moral issues. As it will be specified in the "Materials and Procedure" section, cognitive components were operationalized by explicating the rational criteria underlying moral statements of the form "it is right /it is wrong". Affective components were operationalized in terms of empathy and care towards others. In this way we also investigated whether there was a noticeable gender difference based on male predilection for the sense of justice and female propensity to care and altruism, as Gilligan [32] puts forward. In addition, we tested whether the two age-groups that were examined in this study – young people and adults – differed reciprocally. According to the cognitive-developmental approach, no difference should be found between these two age-groups, because moral development should be achieved at the end of youth, whereas a pragmatic-contextual approach - such as that advocated by Harré [22], Krebs and Denton [44], [45], Wark and Krebs [14] - would acknowledge that the different experiences related to these two life-span phases would enable to produce different moral

perspectives. Finally, the study evaluated the subjective and objective congruence degree between moral reasoning and behaviour.

The instrument of investigation used in this study was a questionnaire specifically tailored to focus on the research goals. The moral dilemmas and the types of thinking presented aimed at reproducing the problems that people face every day and the criteria they utilize to assess them and decide what to do. For this reason, the questionnaire did not take into account all the possible steps from basic to sophisticated levels of reasoning, but focused only on three aspects of moral judgment: selfishness, selfishness-morality conflict, morality. In line with Haidt [39] position and with the results from the pilot study, these three aspects appeared to more precisely reproduce the "rough" and immediate criteria we use to judge the situations we face in real-life.

## III. METHOD

### A. Participants and Design

Two hundred fifty unpaid volunteers (50% male; 50% female) participated in this study. They belonged to two age-groups: 125 were young people (63 males and 62 females) aged between 18-30 (Mean = 25.82; SD = 3.09), 125 were adults (62 males and 63 females) aged between 31-58 (Mean = 45.41; SD = 6.96). Participants were recruited in the area of Naples (Italy), at Universities, bus stops, shopping centres, factories etc.

The study entailed a 2 (gender) x 2 (age-group) x 5 (type of thinking) x 4 (situation) mixed design: the first two variables were between-subjects, the others were within-subjects.

### B. Materials and Procedure

A paper-and-pencil questionnaire was individually administered to participants. It was the adult version of a questionnaire built to investigate moral reasoning in late infancy and adolescence (Matarazzo, [45]). The questionnaire consisted of a 5 page booklet. In the first page the research goal was described and participants' age and gender were requested. In each of the following four pages, a situation that could happen in real life was depicted. Each situation presented a moral dilemma that the protagonist had to deal with. In the first, two company employees have designed a promotional campaign for a product that proves ineffective, but the manager believes that only one of the two is responsible for the error and threatens to dismiss him/her. The other employee has to choose whether to admit his/her responsibility and, like his/her colleague, risk the negative consequences or keep silent. In the second situation, a worker who does not have enough money to buy an item s/he needs, finds a wallet containing 200 euros. The dilemma concerns whether to keep the wallet or return it to the owner. The protagonist of the third situation is, as usual, late for work and may be punished for this, but along the way s/he sees two young people harass a disabled elderly person. The dilemma concerns whether to help the person in trouble or rush to work. In the fourth episode, during a match the protagonist quarrels with a member of the opposing team and hits him/her intentionally hurting him/her. S/he has to choose whether to apologize or not.

Each situation was presented in two versions: a version with all male characters and a version with all female characters. In order to control the effects due to the participants' possible identification with the protagonist gender, each booklet presented two situations with male and two with female characters. The four situations were presented in a different random order.

Each situation was followed by three questions, aiming at investigating, respectively, moral reasoning, moral behaviour, and their level of congruence. The first presented, in a different random order, five possible thoughts the protagonist had following the described episode. They were created on the basis of a 3 degree taxonomy: 1. selfishness; 2. prevalence of selfishness on the sense of justice, prevalence of selfishness on altruism; 3. sense of justice, altruism.

For each thought the criterion by which the situation was evaluated was briefly described and a prediction about the consequent behaviour was made. The criterion underlying the altruistic thought was that of reciprocity, expressed by the golden rule "treat others as you would like to be treated" and implying the ability to feel empathy, in the twofold meaning of taking the others' perspective and imagining or feeling the others' emotions. Nevertheless, in the four instances of this type of thinking no explicit reference to reciprocity as a prescriptive norm was made: the protagonist merely imagined to be in the other personage's shoes and what s/he would have felt in his/her place. On the contrary, the criterion underlying the thinking based on the sense of justice made explicit reference to the prescriptive rule forcing to assess the situations and act following values such as loyalty, honesty, sense of responsibility, fairness. In selfish thinking, the only criterion by which the situation was assessed was self-interest, without any reference to moral norms or the other's needs. In the two remaining thoughts, the protagonist acknowledged that his/her interest was in contrast with moral norms or the other's needs but s/he continued to pursue it. For example, in the situation where the protagonist rushing to work sees a disabled old person harassed by two young people, the five types of thoughts were the following: "I am sorry for that old person in trouble: if I were in his/her place I would like someone to help me and I will intervene to help him/her (altruistic thinking); "It is unfair that those two young people harass a disabled old person: I must intervene" (thinking based on the sense of justice); "I am sorry for that old person in trouble but I must rush to work" (thinking where selfishness prevails on altruism); "It is unfair that those two young people harass a disabled old person but I must rush to work" (thinking where selfishness prevails on the sense of justice); "I'm in a hurry, and it does not affect me" (selfish thinking).

Participants were asked to evaluate on a five-point scale (1 = I do not believe at all that the protagonist thought so; 5 = I really believe that the protagonist thought so) the probability of each type of thinking.

In the second question participants were asked to indicate what the protagonist would do about the choice between moral and selfish behaviour. In the above described situation, the two types of behaviours were: "S/he will intervene to help the old person in trouble"; "S/he will not intervene". The two options were counterbalanced in each booklet and randomised

across the participants.

The third question required the participants to specify which thought, among the five presented, they judged to have most affected the protagonist's. In this way the subjective level of congruence between moral reasoning and behaviour was assessed.

As we have seen, each of the four situations concerns different aspects of the moral domain, although the opposition between morality and selfishness is always present in the questions. According to Wark and Krebs's [14] classification of real-life moral dilemmas, the first two dilemmas fall in the subcategory "reaction to temptation" of "antisocial dilemmas", while the third falls in the subcategory "reaction to the needs of others" of "prosocial dilemmas." The last dilemma, not provided for by this classification, was built to assess the reaction to one's damaging behaviour, an issue that, to our knowledge, has not been included in moral reasoning research. The probability level of the situations and of the types of thinking presented in the questionnaire (assessed by means of a 5-point scale where 1 = not at all probable and 5 = extremely probable) and the language comprehensibility had been previously ascertained through a pilot study with 20 unpaid volunteer participants. All situations and thoughts were judged to be very probable in real life (with mean ratings ranging from 4.2 to 4.8). Nobody found difficulties in understanding the situations or the questions.

#### IV. RESULTS

Data concerning moral reasoning are shown in Table I. They were analyzed through a 2 (gender) x 2 (age-group) x 4 (situation) x 5 (type of thinking) mixed ANOVA with the two first variables as between-subjects factors and the other two variables as within subjects factors.

ANOVA significant results are reported in table II. They consist in three main effects (type of thinking, situation and thinking x situation, type of thinking x age-group, type of thinking x gender).

Since all the main effects were included in the interaction effects, only the latter – interpreted by means of the simple effects analyses – will be commented on.

As regards the type of thinking x situation interaction, in the first (to admit one's responsibility or keep silent) and in the third (to help an old person in trouble or rush to work) situation, the types of thinking attributed to the protagonist ranged in this increasing order: selfish thinking < thinking where selfishness prevails on the sense of justice, and thinking where selfishness prevails on altruism < thinking based on the sense of justice and altruistic thinking. In the second situation (to keep a found wallet or return it to its owner), two clusters emerged: one formed by the three non moral thoughts and the other formed by the two moral thoughts, which received higher ratings. In the fourth situation (to apologize or not after a damaging behavior), selfish thinking received lower ratings than all the other thoughts, which did not differ significantly from one another.

TABLE I  
MEAN RATINGS (AND STANDARD DEVIATIONS) OF THE TYPES OF THINKING OF THE FOUR SITUATIONS' PROTAGONISTS, DISTRIBUTED AS A FUNCTION OF THE PARTICIPANTS' GENDER AND AGE GROUP

		Young people		Adults		Total
		Male	Female	Male	Female	
S1P1	M	3.02	2.48	2.44	2.48	2.60
	SD	1.49	1.35	1.64	1.34	1.47
S1P2	M	3.11	2.82	2.58	2.81	2.83
	SD	1.15	1.29	1.30	1.27	1.26
S1P3	M	3.13	2.97	2.63	2.78	2.88
	SD	1.14	1.38	1.15	1.37	1.27
S1P4	M	3.35	3.35	3.47	3.52	3.42
	SD	1.33	1.15	1.44	1.26	1.29
S1P5	M	3.33	3.24	3.45	3.63	3.42
	SD	1.27	1.14	1.42	1.29	1.28
S2P1	M	2.79	2.37	2.40	2.16	2.43
	SD	1.43	1.27	1.55	1.35	1.41
S2P2	M	3.21	2.79	2.74	2.54	2.82
	SD	1.18	1.23	1.43	1.40	1.33
S2P3	M	3.21	2.35	2.55	2.57	2.67
	SD	1.26	1.28	1.35	1.40	1.36
S2P4	M	3.14	3.65	3.71	3.75	3.56
	SD	1.20	1.37	1.21	1.20	1.26
S2P5	M	3.16	3.55	3.63	3.76	3.52
	SD	1.31	1.42	1.33	1.38	1.37
S3P1	M	2.00	1.60	1.65	1.60	1.71
	SD	1.02	1.05	1.10	0.83	1.01
S3P2	M	2.94	2.69	2.47	2.44	2.64
	SD	1.20	1.27	1.39	1.24	1.29
S3P3	M	2.73	2.58	2.47	2.46	2.56
	SD	1.35	1.37	1.36	1.19	1.32
S3P4	M	3.89	3.90	3.71	3.89	3.85
	SD	1.15	1.28	1.30	1.09	1.23
S3P5	M	3.40	4.02	3.53	4.19	3.78
	SD	1.22	1.11	1.31	1.00	1.21
S4P1	M	2.81	2.58	2.68	2.54	2.65
	SD	1.45	1.40	1.63	1.46	1.48
S4P2	M	3.35	3.05	3.00	2.70	3.02
	SD	1.15	1.29	1.34	1.28	1.28
S4P3	M	3.71	3.50	2.65	3.13	3.25
	SD	1.01	1.31	1.20	1.33	1.28
S4P4	M	3.33	3.44	3.06	3.32	3.29
	SD	1.45	1.34	1.62	1.43	1.46
S4P5	M	3.21	3.34	3.06	3.24	3.21
	SD	1.22	1.34	1.55	1.38	1.37

Legend: S1 = situation 1 (to admit one's responsibility or keep silent); S2 = situation 2 (to keep a found wallet or return it to its owner); S3 = situation 3 (to help an old person in trouble or rush to work); S4 = situation 4 (to apologize or not after a damaging behaviour); P1 = selfish thinking; P2 = thinking where selfishness prevails on the sense of justice; P3 = thinking where selfishness prevails on altruism; P4 = thinking based on the sense of justice; P5 = altruistic thinking.

As to the type of thinking x age-group interaction, the young attributed higher scores to the three non-moral thoughts than the adults, whereas no significant difference between the two age groups emerged on the two moral thoughts.

TABLE II  
SIGNIFICANT RESULTS OF MIXED ANOVA PERFORMED ON MORAL REASONING DATA

Variable	F	d. f.	p <
Type of thinking	99.96	4, 984	0.001
Situation	6.62	3, 738	0.001
Age-group	9.43	1, 246	0.01
Type of thinking x Situation	16.08	12, 2952	0.001
Type of thinking x Age-group	5.52	4, 984	0.001
Type of thinking x Gender	5.03	4, 984	0.01

With reference to the type of thinking x gender interaction, males attributed higher scores than females to the three non-moral thoughts whereas the opposite occurred for the altruistic thinking; no significant difference between the two genders emerged on the thinking based on the sense of justice.

Data concerning the type of behaviour attributed to the protagonists of the situations – shown in Table III – were treated by means of two types of statistical analyses: Cochran's Q, to investigate a possible difference between moral and non-moral behaviour as a function of the situations, and logit models, to test the effect of the participants' gender and age group. Cochran's test ( $Q = 28.24$ ; d. f. = 3;  $p < 0.01$ ) showed that, although moral behaviour was always more chosen than selfish behaviour, their respective frequencies varied in function of the situation: in situations 2 (to keep a found wallet or return it to its owner) and 3 (to help an old person in trouble or rush to work) moral choices were higher than in the other two situations.

TABLE III  
PERCENTAGE OF THE BEHAVIOURS ATTRIBUTED TO THE SITUATIONS' PROTAGONISTS DISTRIBUTED AS A FUNCTION OF THE PARTICIPANTS' GENDER AND AGE GROUP

Situation	Behaviour	Young people		Adults		Total
		Male	Female	Male	Female	
S1	moral	47.6	59.7	61.3	61.9	57.6
	selfish	52.4	40.3	38.7	38.1	42.4
S2	moral	60.3	82.3	71.0	77.8	72.8
	selfish	39.7	17.7	29.0	22.2	27.2
S3	moral	71.4	80.6	66.1	82.5	75.2
	selfish	28.6	19.4	33.9	17.5	24.8
S4	moral	58.7	72.6	56.5	57.1	61.2
	selfish	41.3	27.4	43.5	42.9	32.8

Legend: S1 = situation 1 (to admit one's responsibility or keep silent); S2 = situation 2 (to keep a found wallet or return it to its owner); S3 = situation 3 (to help an old person in trouble or rush to work); S4 = situation 4 (to apologize or not following a damaging behaviour).

The logit models were performed on each situation separately, because they imply the independence principle (i. e. the frequency in each cell is independent of the frequency in all other cells): in each model the behaviour has been included as a dependent variable, whereas the participants' gender and age group have acted as independent variables. Results were interpreted through the parameter estimates. As

regards situations 1 (to admit one's responsibility or keep silent) and 4 (to apologize or not after a damaging behaviour), no effect due to the independent variables was found, whereas gender affected the behaviour choice in the other two situations. Both in the situation concerning the found wallet ( $L2 = 1.97$ ;  $df = 2$ ;  $p = 0.37$ ) and in the one concerning to help the old person in trouble ( $L2 = 0.48$ ;  $df = 2$ ;  $p = 0.78$ ) females made more moral choices than males.

In order to assess the relationship between reasoning and behaviour attributed to the situations' protagonists, two tests were used: the contingency coefficient and the binomial logistic regression. For each situation, the level of congruence between the behaviour attributed to the protagonist and the type of thinking perceived as the one which most influenced the choice was assessed through the contingency coefficient; the respective weight of the five types of thinking in predicting the behavior choice was evaluated through the logistic regression. The former analysis assessed the level of subjective congruence whereas the latter assessed the level of objective congruence between moral reasoning and behaviour. Each of the four contingency coefficients was significant – situation 1:  $C = 0.62$ ;  $p < 0.01$ ; situation 2:  $C = 0.65$ ;  $p < 0.01$ ; situation 3:  $C = 0.67$ ;  $p < 0.01$ ; situation 4:  $C = 0.60$ ;  $p < 0.01$  – thus showing a high level of subjective congruence.

In each regression analysis the model involving the five thoughts (all entered at the same time) as predictors and the behaviour (coded as dummy variable) as dependent variable was tested. For all the situations the model fitted to data (Situation 1:  $\chi^2 = 182.08$   $df = 5$ ;  $p < 0.001$  Nagelkerke  $R^2 = 0.69$ ; Situation 2:  $\chi^2 = 217.67$ ,  $df = 5$ ,  $p < 0.001$ , Nagelkerke  $R^2 = 0.84$ ; Situation 3:  $\chi^2 = 187.23$ ,  $df = 5$ ,  $p < 0.001$ , Nagelkerke  $R^2 = 0.78$ ; Situation 4:  $\chi^2 = 170.28$ ,  $df = 5$ ;  $p < 0.001$ , Nagelkerke  $R^2 = 0.67$ ), but not all the predictors were significant, as results concerning the single predictors (see Table IV) showed. The values of the Wald chi-square test, which points out the contribution of each predictor to the model, indicated that only the two moral thoughts enabled to predict the choice of behaviour in all the situations; the selfish thinking showed the same power in almost all the situations, except for the first (to admit one's responsibility or keep silent); the thinking where selfishness prevailed on altruism predicted the behaviour choice in situations 1 (to admit one's responsibility or keep silent) and 2 (to keep a found wallet or return it to its owner), whereas the thinking where selfishness prevailed on the sense of justice predicted only the behaviour of situation 3 (to help an old person in trouble or rush to work).

## V. CONCLUSION

The results of this study showed that: 1. moral judgment and behaviour are at least partially affected by the type of situations and by interpersonal variables such as gender and age; 2. moral reasoning depends in a similar manner on cognitive and affective factors; 3. there is not a gender polarity between the ethic of justice and the ethic of cure/ altruism; 4. moral reasoning and behavior are perceived as reciprocally congruent even though their congruence decreases with a more objective assessment.

TABLE IV  
 RESULTS OF THE FOUR LOGISTIC REGRESSIONS CONCERNING THE FIVE PREDICTORS

Predictor	B	Wald $\chi^2$	p	Odds Ratio
Situation 1				
Thinking 1	-.260	1.996	.158	.771
Thinking 2	.156	.473	.491	1.169
Thinking 3	-.574	5.714	.017	.564
Thinking 4	1.249	25.542	.000	3.486
Thinking 5	.621	8.844	.003	1.861
Situation 2				
Thinking 1	-1.015	13.874	.000	.362
Thinking 2	-.448	2.369	.124	.639
Thinking 3	-.917	11.488	.001	.400
Thinking 4	.955	9.669	.002	2.598
Thinking 5	1.170	17.102	.000	3.223
Situation 3				
Thinking 1	-.526	3.767	.052	.591
Thinking 2	-.853	7.283	.007	.426
Thinking 3	-.332	1.302	.254	.718
Thinking 4	.773	8.892	.003	2.167
Thinking 5	1.223	19.782	.000	3.397
Situation 4				
Thinking 1	-.645	16.216	.000	.525
Thinking 2	-.131	.619	.431	.878
Thinking 3	-.197	1.126	.289	.821
Thinking 4	.889	20.771	.000	2.434
Thinking 5	.396	4.173	.041	1.486

The influence of the type of dilemma on the reasoning is revealed by the different order with which the five thoughts ranged as a function of the episodes presented. Nevertheless this difference concerns especially the three non-moral thoughts (namely the position of the selfish thought vs. the two thoughts expressing the conflict between selfishness and morality), since the thinking based on the sense of justice and the altruistic thinking received higher scores in almost all the situations. This finding suggests that people tend to adhere to moral values such as loyalty, responsibility, honesty, altruism which are referred to when assessing moral issues. The only exception is represented by the dilemma concerning the reaction to one's damaging behaviour where there was not difference between the two moral thoughts and the ones expressing the selfishness-morality conflict. Only the egoistic thought obtained lower scores than the others.

Thus, one can infer that, when following damaging

behaviours, people tend to justify it on the grounds of the others' behaviours at least to the same extent to which they acknowledge their fault and intend to repair it.

Moreover this situation, as well as the one concerning whether to admit one's responsibility and risk negative consequences for one's career, elicited fewer moral behaviour choices than the other two situations. In addition, in these cases choices were not influenced by gender and age. These findings suggest that people are more likely to adopt moral values when faced with situations in which the price requested by moral choices is not too high for their concerns: i.e. to preserve their self-esteem or uphold their careers, despite blameworthy behaviour. These results are in line with the position of post-Kohlbergian authors such as Blasi [27], [28], and Rest and colleagues [7], [21], who have pointed out that in moral dilemmas the behaviour choice does not only depend on the knowledge of what is good but also on the comparison between moral and other values that individuals pursue. They also corroborate the assumptions of the pragmatic-contextual approach to morality – [14]-[16], [19], [22], [39], [43], [44] - according to which moral judgment is sensitive to situational variables and individuals' concerns.

Moral reasoning and behaviour are also affected by gender and age group: in particular, young people gave higher scores to non-moral thoughts than adults, while women gave higher scores to altruistic thinking and lower scores to selfish thinking than men. In addition, women were more ready than men to choose moral behaviour in the situations where to help a person in trouble or to return a wallet to its owner were at a stake. The results concerning age group do not appear sufficiently robust to make it possible to infer a clear demarcation between the young and adults. Those relating to gender seem to highlight that women have a greater moral sense than men, which is particularly noticeable in the lower female propensity for selfish thinking and the greater inclination towards altruistic thinking and behaviour.

Although these results are in line with Gilligan [32] positions highlighting the women's propensity for empathy and care, they do not show the care/justice polarity between the two genres. Women seem more altruistic than men but they do not show a lesser sense of justice in comparison to them.

Through the care/justice differentiation, affective and cognitive components of moral reasoning were made operational as well. However, these results do not show sufficient elements to support the hypothesis that such components play a different role in the construal of moral judgment. Leaving aside the female preference for altruistic thought, in any situation presented we did not observe any differentiation between justice-based and altruistic thought, nor between the two conflict-conveying thoughts (egoism vs. justice and egoism vs. altruism).

As yet, we do not have sufficient elements to decide whether this result mirrors an actual indifferentiation between the two components, or if the way we differentiated them has not enabled us to locate the hypothetical different contribution they provide to moral sense.

As regards the congruence between moral thinking and behaviour, it needs to be underlined that, though it is high in

the subjective perception perspective, its objective assessment is far more complex.

As we have seen, only the two moral thoughts enabled us to predict the choice of behaviour in all situations, whereas selfish thinking failed to predict the behaviour in the situation in which the dilemma concerned to admit one's responsibility or keep silent, and the remaining two thoughts showed a poor predictive capability. Only distinctly moral and egoistic thoughts appear to have played a decisive role in the choice of behaviour, whereas conflict-conveying thoughts produced contrasting and incoherent choices. Again, the question is whether this result mirrors the lighter weight of intermediate positions in the choice between two dichotomous behaviours, or if it is partially due to inadequate operationalization of the thoughts conveying such positions.

Although further research is needed for the pending questions, this study corroborates the idea that the pragmatic-contextual approach to morality appears to be more adequate than the Kohlbergian one to account for the ways people face everyday moral dilemmas.

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