ARE SOCIAL REPRESENTATIONS AN ARCHITECTURE OF COGNITIONS? A TENTATIVE MODEL FOR EXTENDING THE DIALOG*

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Abstract: The purpose of this article is to examine some issues in social representations theory, distinguishing among different terms, concepts and theoretical approaches. A theoretical model of social representations as an architecture of cognitions (empirical indicators, conceptions, theories) is suggested and tested through a re-analysis of the data presented in Mugny & Carugati's monograph (1985) about social representations of intelligence. A confirmatory second-order analysis (LISREL) has been conducted with the original sample and with various sub-samples (women; 'mysterious and ignorant' women; 'non mysterious-non ignorant' women; mothers non teachers; teachers non mothers). The strategy of testing the model in sub-samples of women goes with the role, already illustrated in the monograph on intelligence, played by the subjective inexplicability about a target-topic, and by social positions and social identities of subjects. The theoretical model is then discussed within the general framework of the sociogenesis and socialization of social representations, as significant socio-cognitive structures of different levels of symbolic productions.

The main puzzling issue we will argue on in this article is whether the social representations approach can be reduced to a mere descriptive listing of answers about every kind of social contents: intelligence, art, illness, body, cities, delinquency, and more recently AIDS and (why not?) water, fire, earth, air, so to say, the pre-Socratic fundamental elements. In other words, what makes the difference, if any, among social representations and ideas, conceptions, beliefs, images, attitudes?

We use explicitly the term "approach" instead of any other terms which can be found in the literature up to now, because the specific aim here is to discuss what "social representations" are on a conceptual level. In fact, in the recent arena of *"Papers on Social Representations"*, the debate doesn't take into account the question of in which sense social representations are different from other notions; furthermore, we see apparent another issue, i.e. whether "social representations" are a theory (Räty & Snellman, 1992) or a concept (Allansdottir, Jovchelovitch & Stathopoulou, 1993)?

We would be considered by the readers neither as fastidious nor as nominalistic for putting this naïve question. This issue is by no means a novelty, if we notice the long-standing eclectic use of the singular (social representation) and/or plural (social representations) form in the literature. For instance, in the "Présentation" of her edited book, Jodelet (1989; cf. p.9) does actually use both, the singular form ("la notion de représentation sociale") and the plural ("la recherche sur les représentations sociales"). Another puzzling issue in the literature is the fashion of some editors (cf. Doise & Palmonari, 1986) or reviewers (cf. De Rosa, 1990) to cover within the label of social representations some empirical research which is either

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conceptually or empirically (in some cases, both) not related to any current definition of social representations.

In previous papers (Carugati,1990a, 1990b; Carugati & Selleri, 1995) we extensively discussed the issue of differences between social cognition approach and social representations. The first point is that every society contains a number of different descriptions of salient issues which constitute a significant part of the 'objective world' for different groups and persons in that society. Such descriptions are not only taken-for-granted constituents of 'reality', but they become subjectively appropriated through socialization. So far, we ought to conceive of a sociogenesis of the 'objective world' which predates persons: some scholars introduced the notions of "cultural messages", "cultural scripts", "folk models", "ethnotheories" (D'Andrade, 1987; Quinn & Holland, 1987) with the aim of accounting for this macro-social level of construction of reality descriptions. But it is a well established fact that there exists more than one ethnotheory and that they often are logically competing each other. Thus one might ask which kind of socio-cognitive negotiations individuals and groups should engage in when they are facing competing theories.

This is here the very issue where the 'information-processing' metaphor (with its theoretical claim of on-off - i.e. correct vs. biased - definition of knowledge) ought to be replaced by a more adequate conceptualization of the give-and-take between persons (or groups) and the socially constructed and conflicting definitions of reality they live in.

A second, complementary point is that, despite the fact that even conflicting definitions of reality are in a sense ready-made by society, they ought to be reconstructed by individuals and groups when people have to use them in concrete situations. But situations very often are more complex and even inexplicable than (ethno)theories try to account for; people have to cope with the everyday experience of being pushed to 'tell more than they know' (Nisbett & De Camp Wilson, 1977) and, far more puzzling, to make decisions even if they do not have 'all the cards of the play'.

Sigel's contribution to the understanding of how people try to make sense of the reality they live in, claims for the 'belief systems' approach (Sigel, 1985). Sigel views adults (and particularly parents) as 'thinking machines' more or less biased in their judgments about their children as far as emotional factors like anxiety and affect interfere with the processing of information through individual schemata: the parent is conceived of as the only seat of psychic reality, where reality is viewed as the sum of individual bits of experience. The issue that 'becoming parents' implies the endless job of building up and sharing an 'expertise' through their socialization (with crucial effects on what they have to think of as parents) is neglected both conceptually and methodologically. Again, the information-processing approach seems unlikely to account for the aforementioned puzzling situation.

How to get a useful approach?

The hypothesis that *social representations* is a theoretical approach that might account for how people cope with the dynamics between what they don't know, what they already know and what they should know for a 'rational' decision making (Moscovici, 1981) (particularly when they have to make decisions about important issues) was the main hypothesis for the first empirical investigation in the domain of intelligence and its development (Mugny & Carugati, 1985; 1989). As far as people feel inter-individual differences in intelligence and development as an inexplicable question (and they are not confident in academic explanations), they produce a sophisticated discourse about inter-individual differences, borrowing contents from both 'ethnotheories' and academic theories (Carugati & Selleri,

1995): it concerns intellectual abilities and performance as a gift (as a gift and not as a matter of development!); intelligence is viewed as a matter of both logical abilities and conformity to everyday social rules; educational practices as a matter of pressure on the pupil and of strict assessment at school; moreover, explicit attribution of responsibility to teachers for the development of intelligence and for school failure is put forward. This figure is even more evident among specific categories of people: parents, teachers, and teachers who are parents at the same time.

A further result may be summarized as following: intelligence is by no means a monolithic notion, whose meaning originates from the experts' work and then is injected in the lay people's discourse: on the contrary, the cognitive monophasia of different theories, that academic scholars build, defend and hold (Sternberg, 1990; Carugati, 1990a, 1990b; Carugati & Selleri, 1995) is the raw material used by lay people as building blocks for a multiplicity of different discourses and for a diversity of socio-cognitive functions. People manifest systematic patterns of discourse as response to the specific social positions they hold in social systems and with reference to significant turning points in their lives. Thus the cognitive monophasia of the experts shifts to a well organized cognitive polyphasia in the lay people's discourses, which serves for them to negotiate between competing theories according to their positions in the social system and to their relations with the inexplicable topic: the case of parents-teachers who defend (more than non parents- non teachers) a conception of intelligence as a gift unequally distributed among children is a nice example of how people construe their cognitions not in a vacuum but in the social arena, where conflicting social identities (parents, teachers) are questioned by a subjectively inexplicable topic.

In this sense, the main dynamics which has been documented in Moscovici's seminal work on psychoanalysis in France during the late '50s (1961; 1976) was documented twenty years later about intelligence in Italy and Switzerland during the mid '80s. Flament's recommendation (1992) of documenting the "when and where" of research on social representations is very appropriate and welcome.

Towards a model for social representations

We are at the focus of two complementary sources of socio-cognitive dynamics: inexplicability of a salient issue and conflict of identities. Going further on this line of research, how could this polyphasia about intelligence be interpreted if it is neither a matter of conceptions, everyday ideas, beliefs or any other notions borrowed from the individual social cognition approach, nor from an individualistic approach to social representations? According to our main thesis we need to argue on the theoretical status of the topics we ask people about, the collection of singular answers we get from them, the results of any kind of data analysis (factor analysis, multidimensional scaling, or other techniques: cf. Doise, Clémence, & Lorenzi-Cioldi, 1992).

It is not only the topic itself which could be defined as neither social representation in singular nor social representations in plural form. In our opinion, even the results of statistical treatments could not be defined "per se" as social representations: the results of any first-level treatment of subjects' answers, in search of a latent organization of empirical indicators, could be labeled as *conceptions*.

According to different statistical techniques, measures of overall fit can show different stability in the sample: for this scope, for instance, exploratory factor analysis should be profitably matched with a confirmatory one, in LISREL for instance.

But the empirical evidence that people hold several (and from the strict logical point of view, even conflicting) conceptions at the same time (Mugny & Carugati, 1985) raises the question of the relationships among conceptions. The organization of these hypothetical relationships could be defined as *theories*. Furthermore, following our aim of exploring the puzzling network of conceptions and theories people construct and think of when they are requested to answer an interesting topic, we may conceive of an organization of theories, which, according to a socio-cognitive approach, should be both relatively stable and molded by social dynamics, namely people's social positions and social identities.

For this overall theoretical architecture of cognitions (empirical indicators, conceptions, theories) in relation both to specific relevant social objects and to specific people, we propose the notion of *social representations:* our research program is thus to study of how social representations can be mapped within specific categories of people, which occupy specific social positions towards a given set of topics, and to document the characteristics of this architecture.

Our general goal is the search for social representations as socio-cognitive organizations (or significant structures, in Lucien Goldmann's terms, 1976; 1980; cf. Duveen & Lloyd, 1990) which:

- have functional necessity for an interrelated set of people who are confronted with a given topic or a set of interrelated topics;
- should be salient and relatively inexplicable for those people, for whom the topics activate some identity problems and imply decision making (Carugati, Emiliani, Molinari, 1992).

Testing the model

A first test of the proposed model will be shown now by re-analyzing the data of Mugny & Carugati's monograph (1985). We chose these data in order to test the previous interpretation (through a more sophisticated theoretical model we built up to be submitted to a confirmatory strategy) and to go deeply in the search for socio-cognitive dynamics at the origins of social representations.

For this purpose we have constructed the following hypothetical architecture, a general model able to explain:

i) the relationships among *empirical indicators* and *conceptions*; this first level organization might confirm the pertinence of factors we documented in 1985 which we better call now *conceptions*.

ii) the existence of a second order organization which might account for relationships among conceptions: in other terms, the existence of *theories* and their relationships.

We tested this hypothetical architecture by a submodel implemented in the LISREL second order factor analysis (cf. Jöreskog and Sörbom, 1982; cap. 6; Saris and Stronkhorst, 1984; Corbetta, 1992).

The empirical data for this statistical treatment are the scores of the items of questionnaires on "general aspects of intelligence", "how intelligence develops", and "teaching methods" we used in the original monograph (Mugny & Carugati, 1989; cf. Appendix 1 to 3). We selected items loading equal or higher than .40 on the factors. The model is thus tested with 21 empirical indicators (the original items). In Appendix 1 the wording of these items and the labels used in the figures are presented.

This general model was tested in the overall sample (N= 648)[1]; only in women (N= 449); in women who considered intelligence as scientifically inexplicable and academic (university) disciplines as irrelevant for understanding what intelligence really is (N=66); in women who, on the contrary, were confident in both sources of information (N= 116); we remind briefly the technical way of exploring the influence of these variables we proposed in Mugny and Carugati's monograph (1989, 81; 87). We considered our women's replies to the item (Q1, item 56) which sounds as following:

> The existence of differences of intelligence among individuals is a mysterious problem which science has been unable to solve.

On the basis of the replies we obtained to this question it was possible to eliminate all women who chose answer 4 (on a seven-point scale) and those who failed to respond to it. The remaining subjects might be divided in two groups: those who rejected the proposition more or less strongly (1,2 and 3) and those who approved it (5,6, and 7). Furthermore, in order to get some indication of the degree of shortage of information the women felt they have at their disposal, we used the replies to the sub-questionnaire (Q6) concerning the relative importance of 21 scientific disciplines for understanding the nature of intelligence. We purposely added in this questionnaire an extra answer to the usual seven-point scale, i.e. the possibility to respond "I don't know". It was thus possible to divide women into two groups: those who ticked more than twice 'I don't know' (evincing a great shortage of information) and into those who ticked never, once or at maximum twice 'I don't know'.

On the basis of the aforementioned criteria, it was possible to create two groups of women: those who felt both, intelligence as mysterious and a shortage of information about it (a total of 66 women: we will call them 'mysterious and ignorant'), and those women who felt both, intelligence as explicable and sciences useful for explaining it (a total of 116 women: we will call them 'non mysterious- non ignorant').

Furthermore we explored a sub-sample of mothers non teachers (N= 89) and of teachers non mothers (N= 84).

The choice of exploring sub-samples of women is guided by the theoretical framework we developed about the importance in social representations of both the inexplicability of the target topic and of the role of social positions and social identities in molding the people's symbolic products. Last, but not least, we used samples of women in order to discuss the issue of circularity between social representations and groups (we should better say social categories) issue which had a period of interest in social representations literature (cf. Potter & Litton, 1985).

To verify our model according to Jöreskog and Sörbom (1988, p.42) we used all the following measures of overall fit: Chi square (Chi2); Chi2/Degree of Freedom (Chi2/DF); Goodness-of-Fit-Index (GFI); Adjusted Goodness-of-Fit-Index (AGFI); Root Mean Square Residual (RMR). All the statistical measures seem to be satisfactory, even if each reader and colleague might have his or her own particular way of matching the standard indexes in LISREL literature (cf. Corbetta, 1992). In presenting and discussing the model (cf. also figg. 1 to 6) a *covariation* is represented by a double-arrow (**<----->**) and ta *direct effect* (Blalock, 1960) is represented by an arrow (----->). Arrows in bold represent the second-order organization of data.

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[1] The original sample of 728 subjects (222 man and 506 women) has been automatically reduced by the LISREL program, that excludes all the cases with some blanks

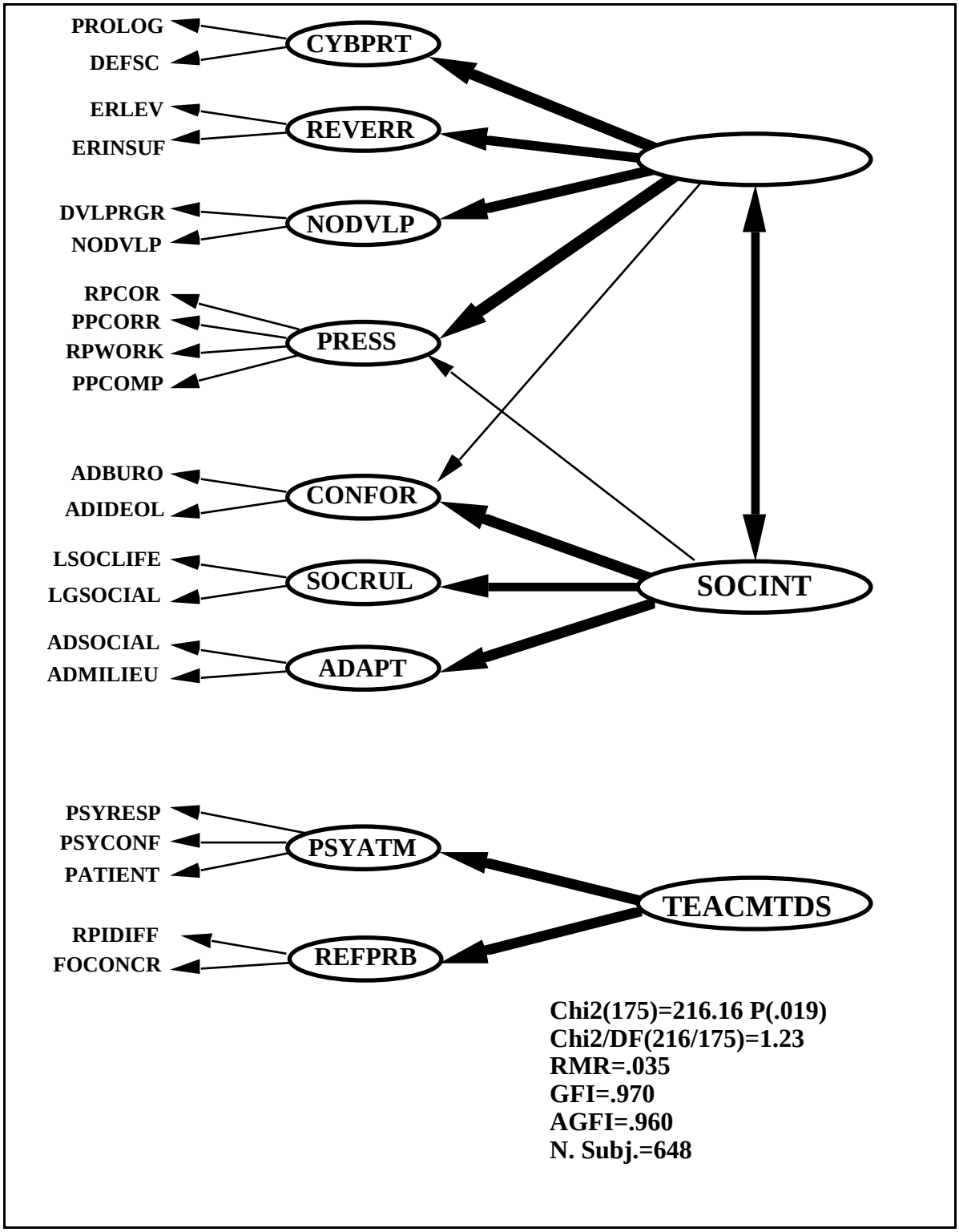

Figure 1
Model of second order organization in social representations (All sample).

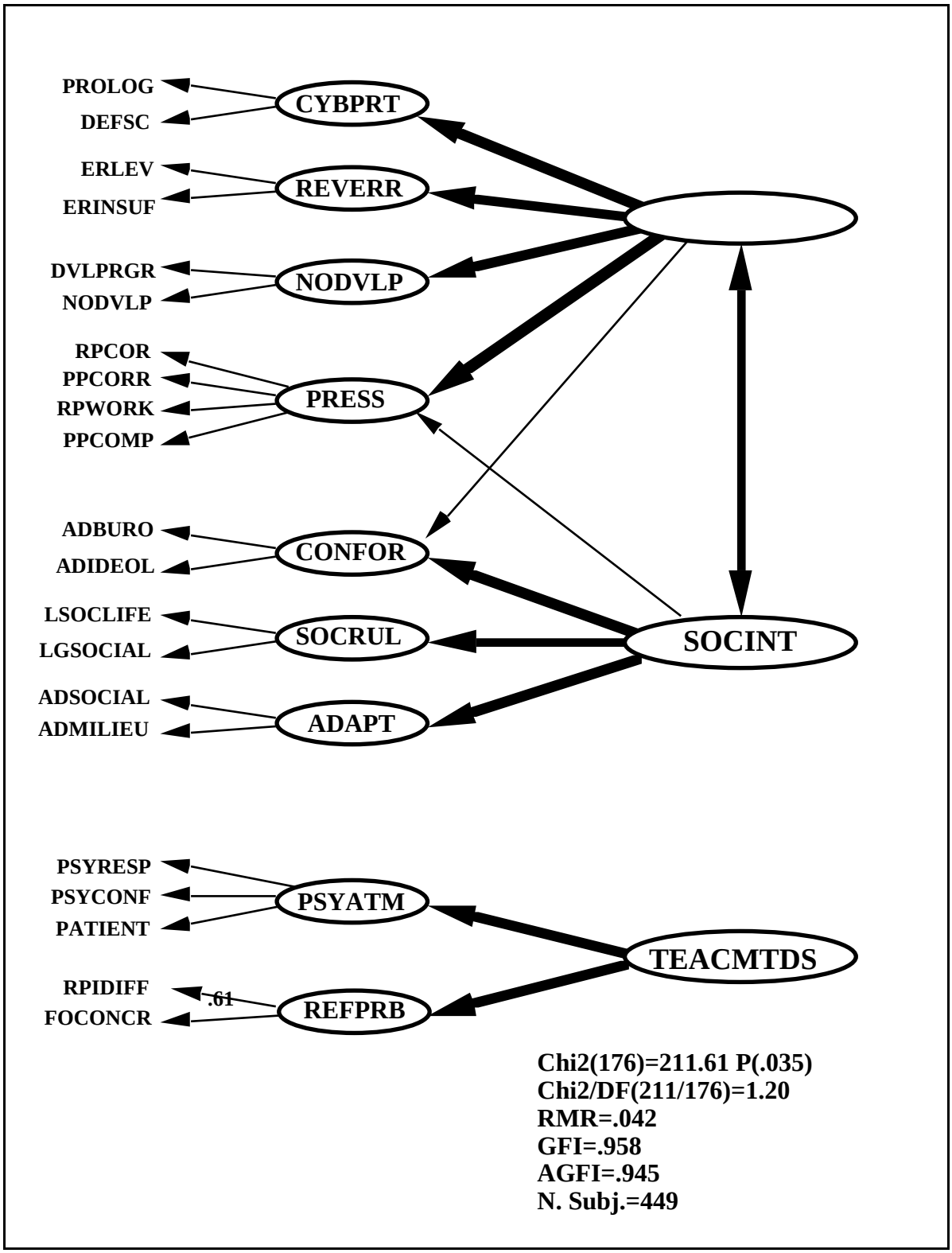

Figure 2
Model of second order organization in social representations (Women).

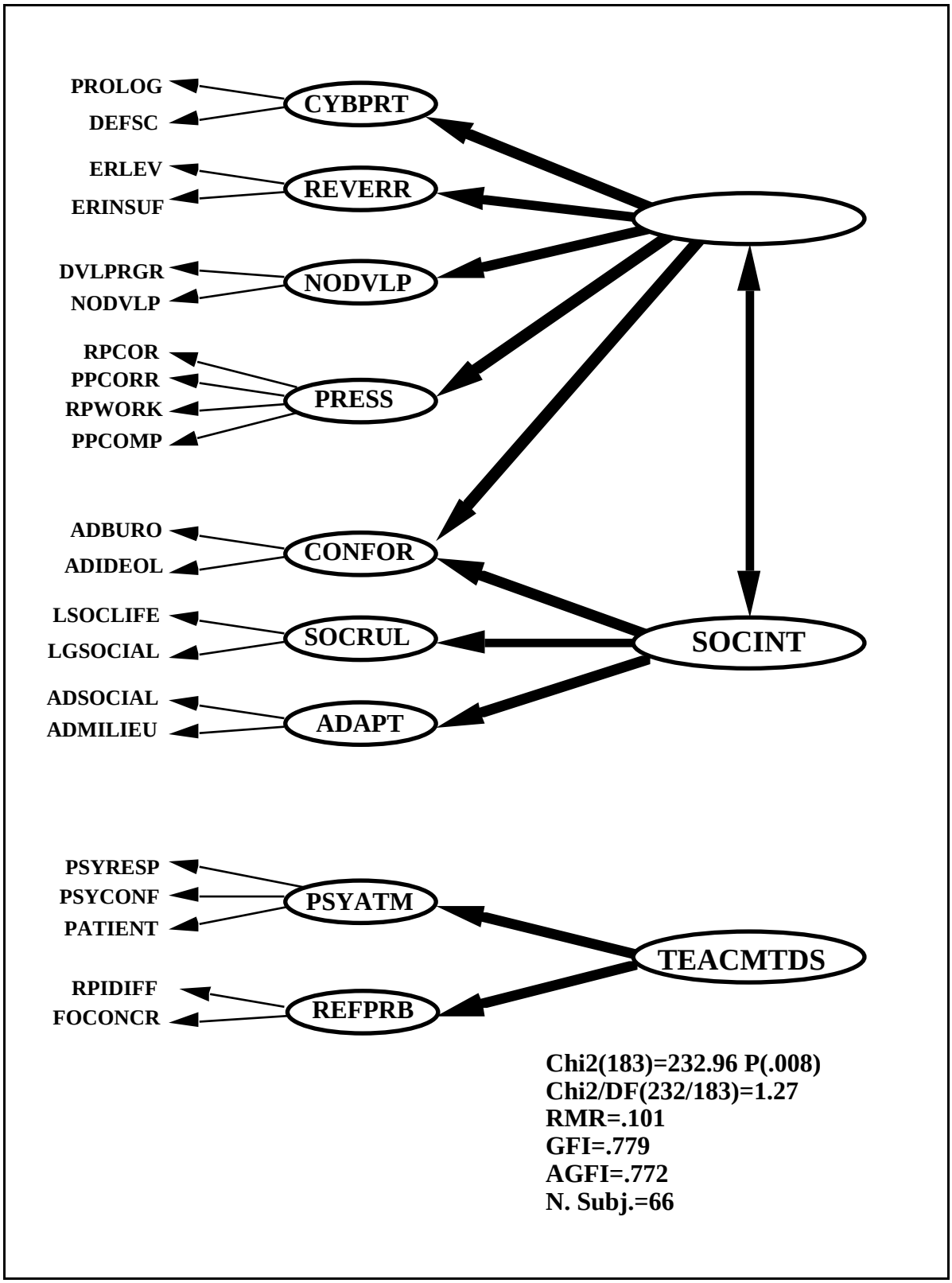

Figure 3
Model of second order organization of social representations (Mysterious and ignorant, women).

As can be seen in Fig.1 (complete sample) a well organized model of adults' cognitions does appear in terms of both, conceptions and theories: a set of 9 conceptions constitutes the first level of organization which confirms the general impression of our previous results[2]. General definitions of intelligence are borrowed from the scientific discourses of logic and mathematics, with the iconic anchoring on computers as the prototype: the normative source of science is apparent. Another discourse (common sense?) is apparent as well: intelligence is a matter of adaptation to both, the social and the physical milieu. The third discourse concerns the teaching methods: pressures on the child focusing on both imitation and competition, attention to the emotional qualities of the interpersonal relations, and some didactic practices referring to school tasks are the instruments considered efficacious for children to cope with difficulties in school subjects. What we found in 1985 seems to resist a strict and severe technical test by a confirmatory statistical method.

As for the search of a second order organization (Cf. Fig. 1, in bold) three subsets of conceptions are grouped in three conceptually meaningful theories: *theory of gift* actually means that intelligence does not develop, its prototype is the computer, the errors are revelatory of intelligence, and pressures on the child are viewed as efficacious.

For the *theory of social intelligence*, the theme of adaptation is predominant, both as conformism to ideological demands of society and as learning of social rules of everyday life. *Theory of teaching methods* shows two subsets of themes: the influence of psychological atmosphere in interpersonal relations and the importance of reformulating problems and tasks, when the child does not understand.

What is worth noting and specific in this second order organization (in figures 1 and following, represented by double arrows in bold) is the relationship between theories: while the *theory of gift* and the *theory of social intelligence* do actually covary (.40), no covariation exists between *theory of teaching methods* and the other two. A complementary result concerns the reciprocal contributions of the conceptions of 'pressures' to the theory of social interaction and the contribution of 'conformism' to the theory of 'gift'. If we consider the overall model, we may say that the two theories are strongly interrelated.

For the sub-sample of women (Fig.2), the model is fairly overlapping and consistent in comparison with the general one.

The overall figure of the model suggests to analyze in more detail the influence of the specific socio-cognitive dynamics of inexplicability and conflict of identities. If we consider the sub-sample of women whom we call 'mysterious and ignorant' (Fig.3), the covariation between *theory of gift* and *theory of social intelligence* is higher (.55) than in the sample of 'non mysterious and non ignorant' women (cf. Fig.4). No covariation between the two theories appears in the latter model. We underline here the specific contribution of the conception of conformism to the *theory of gift* in the sample of 'mysterious and ignorant'; in other terms, a conformist component of the *gift* seems apparent.

For mothers-not-teachers (Fig.5), the covariation between *theory of gift* and *theory of social intelligence* is highly positive (.81) whilst for the teachers-not-mothers (Fig.6) the covariation between *theory of gift* and *theory of social intelligence* is substantially negative (-.28). In this last case too, there appears no link to a *theory of teaching methods*. The main

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[2] In all the models we present, one or two auto-correlations can be measured. As example, in the first model they are as following: ADSOCIAL and LGSOCIAL (.166), LSOCLIFE and PPCOMP (.111); for factor PRESS and REFPR a auto-correlation of .097 has been found. We underline that these coefficients are not standardized, therefore the interpretation of them is not direct and the values must be considered simply as an example (cf. Jöreskog and Sörbom, 1988, 182-184).

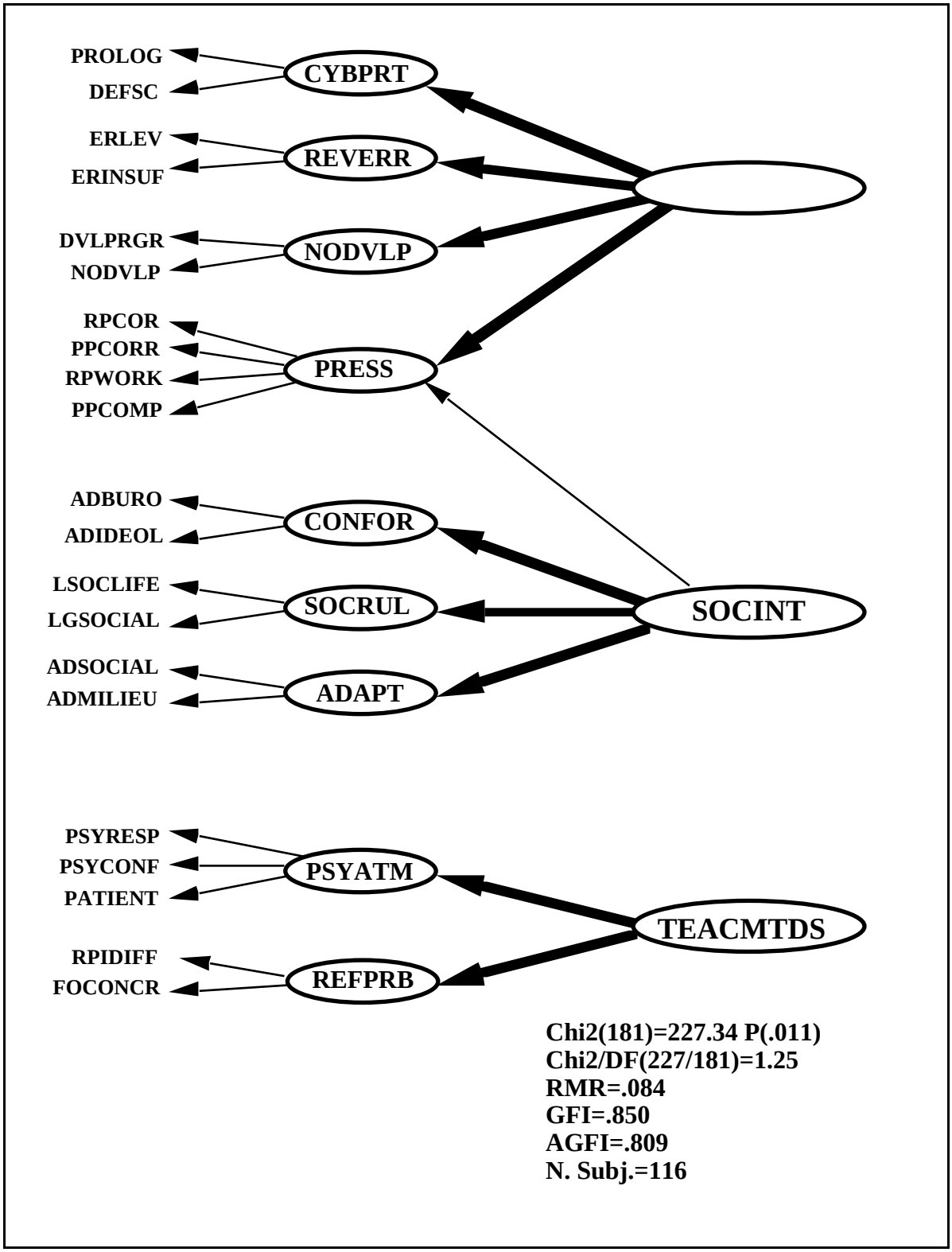

Figure 4

Model of second order organization in social representations (Non mysterious and non ignorant, women).

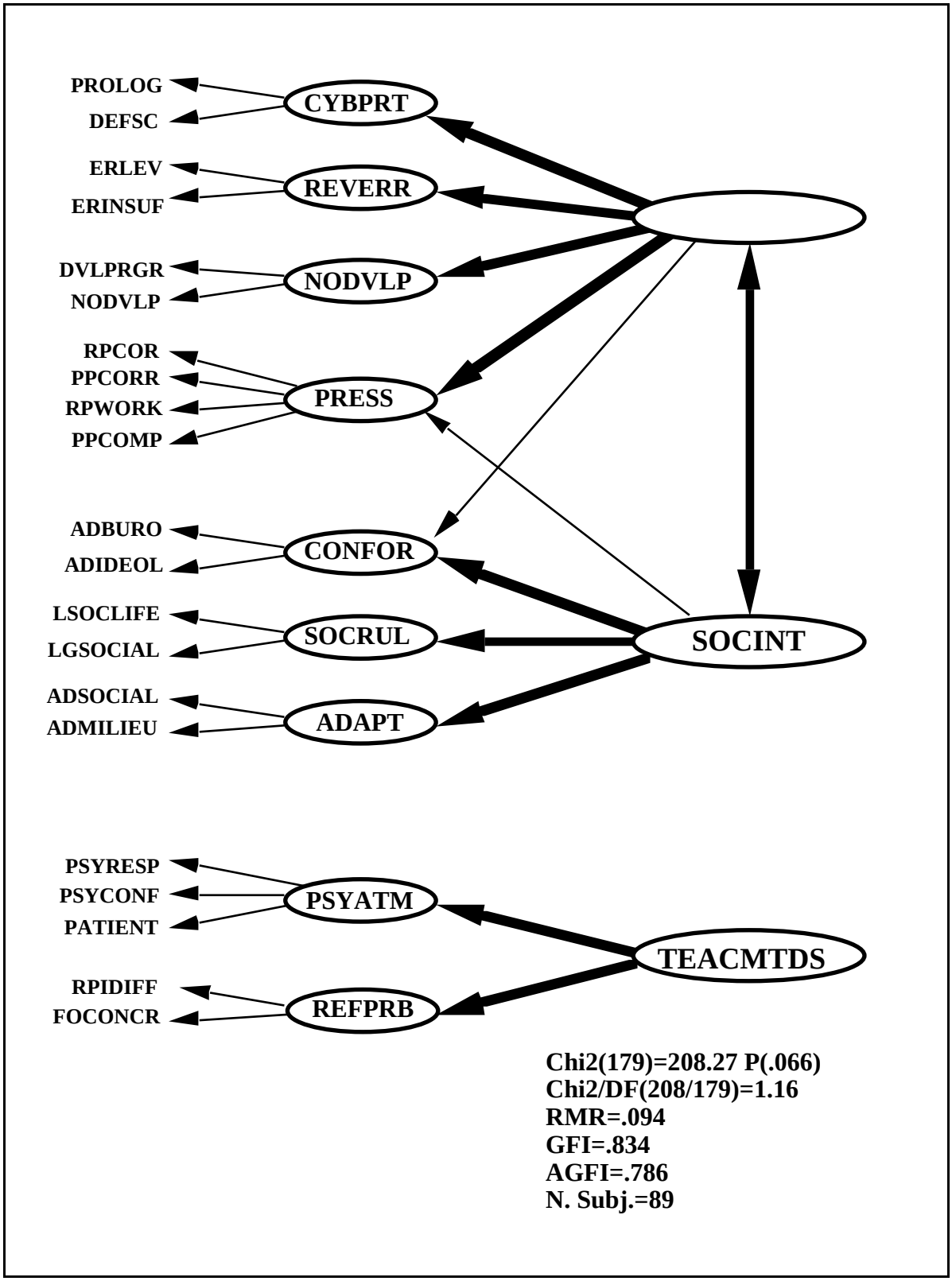

Figure 5
Model of second order organization in social representations (Mothers not teachers).

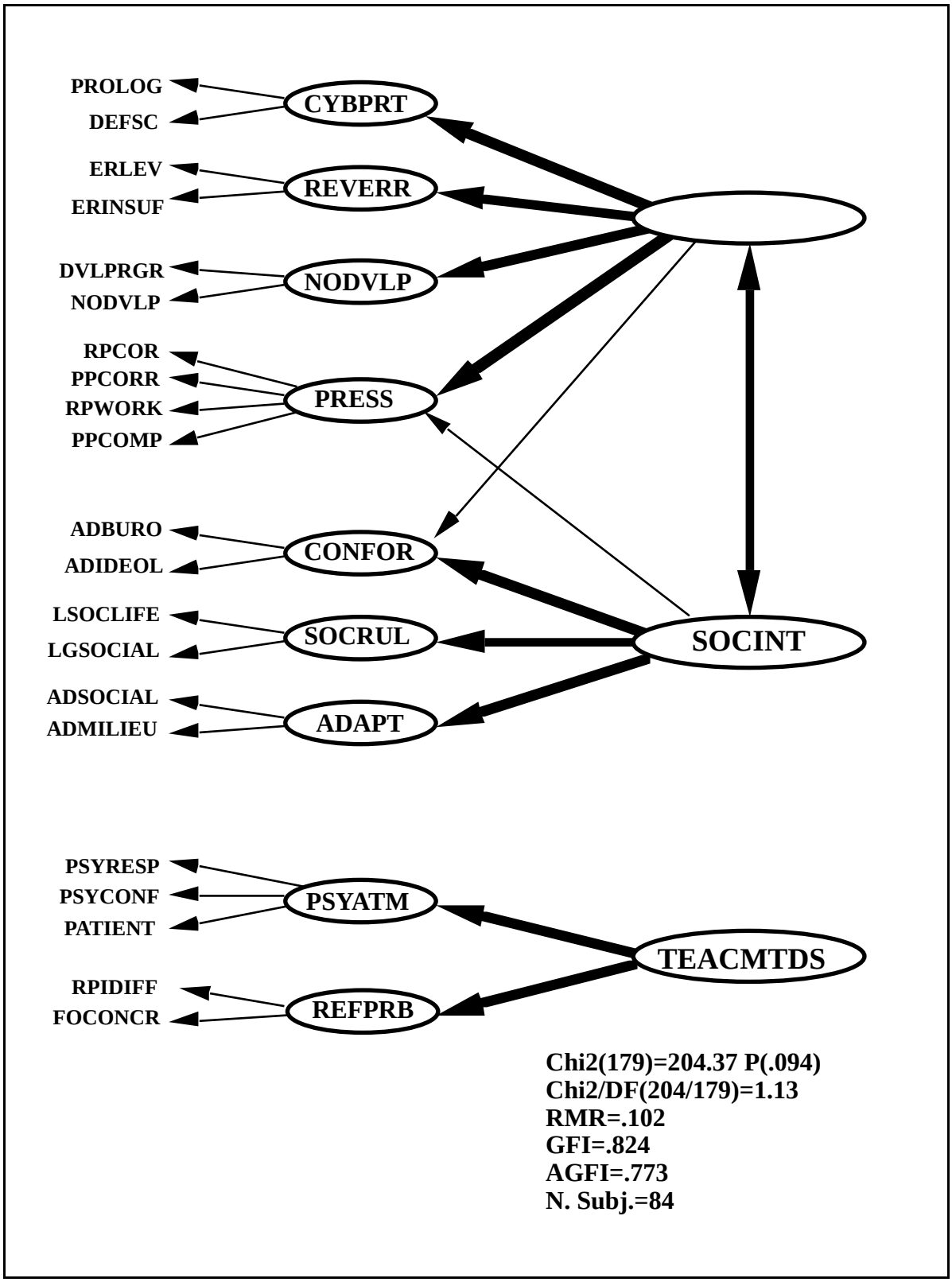

Figure 6
Model of second order organization in social representations (Teachers not mothers).

(Continued on next page)

Figure 6 continued

* The values in parentheses represent the total effects. For the link between theories is negative, we prefer to add the total effects (direct + indirect effect). As in Fig. 6 the direct effect of .61 shifts to .35 for total effect (.61 + .93 * -.28). The effect of .48 shifts to .33 for total effect (.48 + .55 * -.28). We present the total effects only for this model, in order to render unequivocal the interpretation of this model. (For more technical information, cf. Jöreskog and Sörbom, 1988, 42.)

figure here is the independence of the theories, even they hold their own internal organization.

Discussion

Our first claim about the possibility of illustrating adults' answers to a topic – in terms of a theoretical model inspired by the social representations approach – seems at least plausible. Social thought should neither be regarded as a site of incoherence and disorder nor of arbitrariness. Rigorous patterns and precise rules seem to govern the different discourses about intelligence which float in society and cultures along various trajectories, when these discourses are reconstructed from the specific points of view of concrete categories of people who have significant relations with the topic they are questioned about.

In this sense a well established and organized consensual view is shared by our sample: intelligences are multiple for both experts (Gardner 1983) and our everyday people. But whilst for experts multiplicity actually means fragmentation of individual faculties (linguistic, mathematical, musical, etc.) intelligences are interrelated not according to what intelligence *is* but according to the positions people have towards the issue for lay people.

Consensus does not imply that people may not disagree: it is the case in our subcategories of women.

The hypothesis of inexplicability of intelligence as an organizing principle in social representations seems well illustrated, according to the patterns of links we found between theories. In mysterious women these links are apparent, whereas this is not the case for non-mysterious women. We interpret this result according to our claim that people may 'tell without knowing', but it is by no means a matter of bias or of irrationality: it is a matter of the socio-cognitive necessity of producing a verdict without evidence. If we remember that our main hypothesis focuses on both, a lack of alternative explanations and a shortage of information concerning academic disciplines, these two socio-cognitive conditions ought to give greater salience to the problem of differences of intelligence among individuals.

In fact, these two conditions (Mugny & Carugati, 1989, ch.4, pp. 80 ff.) have been tested independently, with parallel and consistent patterns: intelligence is a gift unequally distributed among individuals; intelligence is defined as a set of *mental and social* aptitudes which enable the child to succeed in his/her environment, particularly at school. This figure was much more evident among adults than among university students.

In the present contribution we went further, examining women who are at the same time in these two socio-cognitive conditions (inexplicability and information shortage): in fact they organize gift and social interaction theories in a systematic way, which is not the case for women who consider intelligence as being explicable by scientific theories.

The way women relate the theories to each other is the conceptual key to interpret all the results. For instance, mothers-non-teachers underline intelligence *both* as logic and social (as the positive correlation of .81 suggests: cf. Fig. 5) whilst for teachers-non-mothers

intelligence is *either* logic or social (cf. Fig. 6, negative correlation of -28). In other terms, mothers seem to conceive of intelligence as *P & Q* being true, whilst teachers as *P & not Q* or *Q & not P* being true. Isn't here a very amazing form of logic in cognitions?

In our opinion, mothers and teachers share (i.e. are consensual about) the general architecture of the discourses about intelligence but they differ in the ways finer grained themes are talked about: the institutional influence of school as a *thinking environment* which molds general ideas and anticipated teaching methods seem apparent; the normative scientific definition of intelligence in terms of logico-mathematical aptitudes should be kept distinct from everyday social intelligence in school representatives who in a sense are and perceive themselves as the 'vestals' and the 'talent-scouts' of intelligence. For mothers the dynamics are quite different: they have to cope with academic and everyday intelligence of their children both at home and at school, frequently both negotiating and in conflict with teachers. Thus mothers have to play two different melodies (logical and social) with the same instrument and for the same audience.

A complementary issue concerns the consensus teachers and mothers share about pressures on the child as a way to improve success at school. As for the general model, we interpret the stability of this pattern as the evidence of a kind of an historically well grounded fundamental method; "gutta cavat lapidem" wrote thousand years ago our ancient Latin forefathers, and our modern mothers and teachers (throughout the centuries) well learned the aphorism.

A last comment is devoted to the isolation of the theory of teaching methods: this result and the previous one should be considered at the same time.

One of the specific features of the social representations approach is the claim that representations serve for communication and for guiding action. If the aim of communication is focused on teaching behavior (this is the case for women who have the historical role of introducing children to everyday action), the distinction between representations and action is reduced. But which specific conception is a more likely candidate for serving as a bridge-head? What people organize as a teaching theory is an indicator of what can be borrowed from the academic disciplines: women know very well that they exist and circulate in society as a fairly sophisticated educational tools. But if we look at the ways multiple and separate conceptions are reconstructed from specific points of view, women put the 'right piece in the right place' according to the positions they have to adopt as women, as mothers, as teachers.

Thus, the pressure on the child is the 'basic tool' they can use as a bridge-head for passing (in their representations) from intelligence as a logico-mathematical affair to anticipated action. Attention to emotional components of relations and more subtle strategies for children in difficulty could be seen, with the eyes of mothers' and teachers', as instruments which have a role in particular social episodes worked out reciprocally in relation to specific tasks and to the conduct of the child him or herself.

Final remarks

The aim of this contribution was to present a tentative way of how to explore social representations as significant socio-cognitive structures of different levels of symbolic productions, which are very likely molded by social dynamics. Social positions and social identities are candidates for playing a prominent role in sociogenesis and socialization of social representations at least when the chosen topic concerns intelligence, development and teaching practices. A future way of testing the model is to use other samples of subjects and other contents.

A further remark has to do with the so-called circularity between groups and social representations. We already documented in a sample of mothers that *being mother is not enough* for understanding the richness of discourses on which mothers agree as mothers but disagree as workers, employees or teachers (Carugati, Emiliani & Molinari, 1990): in the present case, *being a woman is not enough* as well. In more general terms, *being any category* is not enough for explaining any kind of relationships between content and categories of people. Is there more contents than categories or vice versa? A way of coping with this intriguing issue is to triangulate specific contents for specific categories for which the chosen content is eliciting some socio-cognitive conflicts. If contents are floating unceasingly in cultures and society and scholars document them as cultural or folk models (some authors - cf. Duveen & Lloyd, 1990 - have introduced the possibility of studying them as the sociogenesis of social representations) we propose here the possibility of studying social representations as significant organizations of multiple discourses where content, people concerned and their social positions are interrelated, thus avoiding the risk of circularity.

Let us finish with a brief quotation from Italo Calvino, an Italian writer, recently untimely dead, who was invited by Harvard University in 1988 to give the 'Charles Elliot Norton Lectures'. He chose as title of his Lectures: 'Six memos for the next millennium'. The fifth lecture entitled *Multiplicity* ends with these few words:

> ...Who are we? Who is each of us apart from a combinatorial of experiences, informations, readings, figments of our imagination? Every life is an encyclopedia, a library, an inventory of objects, a sample of styles, where everything could be continuously shuffled again and again, and rearranged in every possible way. (Calvino, 1988, 120)

Social representations could be seen as an equilibrium point between the flow of individual experiences of individual selves and the rigidity of social organizations: a meeting point where people, bathed in the secular give and take between science and common sense, build up some common conceptions concerning intriguing topics. They also build up theories and string them together in complex and logical networks in order to give meaning to everyday life, to communicate with each other and to agree and disagree according to the positions and social identities they possess in the wider network of social relations.

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Appendix 1

Items and labels used for the model of second order organization in social representations

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Empirical Indicators:

PROLOG	Logic and mathematics are the prototypes of intelligence (Q1, item 7)
DEFSC	Only science can define what intelligence is (Q1, item 60)
ERLEV	The child's errors are evidence of the level of his intelligence (Q2, item 42)
ERINSUF	The child's errors reflect the inadequacy of his thinking (Q2, item 6)
DVLPRG	The development of intelligence progresses according to a biological programme fixed at birth (Q2, item 9)
NODVLP	Intelligence does not develop: it is a hereditary gift (Q2, item 31)
RPCOR	Make the child repeat the correct answer several times (Q3, item 55)
PPCOR	Make the child observe a friend who gives the right answer (Q3, item 33)
RPWORK	Give the child extra homework in the area where he has difficulty (Q3, item 34)
PPCOMP	Make the child compete with other children (Q3, item 26)
ADBURO	Being intelligent means conforming to the norms of a society which has become beaurocratic (Q1, item 88)
ADIDEOL	An intelligent person is someone who can adapt to the dominant ideology (Q1, item 78)
LSOCLIFE	The development of intelligence is the gradual learning of the rules of social life (Q2, item 71)
LGSOCIAL	The child is capable of understanding logic because he understands the rules of social life (Q2, item 101)
ADSOCIAL	Intelligence is the individual's capacity to adapt to the society in which he lives (Q1, item 69)
ADMILIEU	Intelligence defines the individual's adaptation to his physical environment (Q1, item 120)
PSYRESP	Give the child responsibilities (Q3, item 19)
PSYCONF	Help the child regain self-confidence (Q3, item 18)
PATIENT	Be more patient with the child (Q3, item 21)
RPDIFF	Practise different problems which will help him find the right answer (Q3, item 22)
FOCONCR	Give a concrete example of the question (Q3, item 54)

Conceptions:

CYBPRT	cybernetic prototype of intelligence
REVERR	Errors as a revealer of intelligence
NODVLP	Intelligence does not develop
PRESS	Efficacity of pressures on the child

CONFOR	Conformism
SOCRUL	Social rules
ADAPT	Social adaptation
PSYATM	Psychological atmosphere
REFPRB	Importance of reformulating problems

Theories:

GIFT	Intelligence as a natural gift
SOCINT	Social intelligence
TEACMTDS	Teaching methods

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