
Comparative Study on Concept Construction for Violence, Intelligence and Religion in Early Adolescence in the Parisian Suburbs

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Based on association tasks, we focused our research on the process of concept construction and on the nature of the semantic structure network of three important concepts in the lives of young adolescents in the Parisian suburbs: violence, religion and intelligence. In this exploratory study, we were interested in identifying similarities and differences in the organization of these social concepts between adolescents with French parents and adolescents with immigrant parents. Despite the fact that these children share common “eco-cultural” experiences, we supposed that the different cultural guidelines in the family settings might influence the construction and the semantic organization of the concepts. Subjects were all born in France (N=228), and they share the same social environment and low socioeconomic status. Analyses of representational fields and of semantic networks were conducted and evidence for some similarities as well as for major differences between the two groups in concept construction and in semantic organization was present. Our findings showed a more homogeneous organization in children with immigrant parents; meanwhile French children’s structures of concepts are more heterogeneous. Major differences can also be observed at the semantic level. The findings are discussed in respect to the concept formation literature and the eco-cultural approach of human development.

Studies on concept development explore how concepts arise, what the underlying processes of concept formation are and how a child may represent them. Concept formation is considered as a process which integrates features fitting together to form a class of objects or “ideas” (Levine, 1999; Smith, 1988; Sternberg & Ben-Zeev, 2001).

While concrete concepts have sensory input, the purely abstract concepts are constructed through metaphor and analogy. In the case of violence, religion and even intelligence, a child has to process a great number of personal perceptive experiences with abstract moralizing discourses, speech acts and mediated reality. Therefore, these concepts are situated in an intermediate position between the concrete and the abstract concepts. The “constructivist” approach (Müller, Sokol & Overton, 1998) states that a child is an active participant in the development of concepts and mental representations through his/her interactions with the environment. Studies on mental representations (Müller et al., 1998) highlight that higher cognitive processes become more complex with age, since the developing child re-uses mental representations and transforms them according to the appearance of new needs.

The underlying idea in this chapter is that concept construction is a process that is controlled not only by cognitive mechanisms but also by the social, cultural contexts of the growing child. We are stating that psychological mechanisms of concept construction are the result of the interaction of specific genetic psychological structures, such as perception, attention, memory and reasoning on the one hand, and of systems of beliefs, norms and values already cognitively organized by different cultural systems, on the other. However, the growing child is not a passive “cognitive” or “cultural” subject but is an active actor in his own development. We support an integrated approach of concept formation and use. The child forms part and even creates the “reality” through his processes of conceptualization (Lammel,

1998; Lammel & Kozakai, 2005; Nisbett, Peng, Choi & Norenzayan, 2001; Pazer, 1992; Vygotsky, 1978; Wertsch, 1997).

In this study we intend to explore social concept construction through a comparative approach based on research in the “full-of-conflict” Parisian suburbs. We employed Bronfenbrenner’s eco-cultural model (1979, 1986) to some extent, as our framework for interpreting the role of external influences on concept formation. Bronfenbrenner’s (1979) theoretical position was that interpersonal relationships, including microprocesses (i.e., genetic potential actualized by heritability) in the parent-child relationship, do not exist in a social vacuum but are embedded in larger social structures. In the Bronfenbrenner model, the individual is the result of cultural, social, economic and political multidimensional variables within which the psychological processes of development take place. Consequently, Bronfenbrenner’s model suggests that the environment is the main source of the development of human behavior. Although this is not a new idea in psychology (Cartwright, 1951; Lewin, 1936;) what appears to be the originality and the strength of Bronfenbrenner’s model, is the consideration of a gradual accommodation between the active subject and the immediate, changing environment. Therefore, psychological development is deeply affected by the dynamic relationship established between biological and social structures, both of which are included in a more global “eco-cultural” context (Bronfenbrenner, 1979; Ceci, 2006).

In this exploratory study, we obviously cannot test for this model. However, the theoretical articulation on the development of complex conceptual structures such as intelligence, religion and violence and “the biosocial trajectory indicating the transformation of genotypes into phenotypes” (Bronfenbrenner & Ceci, 1994, pp. 580-581) offers an effective methodological tool for understanding the process of the construction of these concepts in relationship to the “eco-cultural” context (Georgas & Berry, 1995) of young adolescents. The three concepts studied in this article, “intelligence”, “religion” and “violence”, are particularly important in the construction of the social world of children and young adolescents.

Bronfenbrenner’s model was developed to understand development in culturally homogenous eco-cultural systems. In our sample of young adolescents residing in the Parisian suburbs, a significant percent of the population still undergoes acculturation. Therefore, the central elements of the micro-system can represent value systems, forms of socialization and abstract knowledge (“metaphors” and “analogies”) that can be radically different in families with different cultural backgrounds. The importance of the family setting is essential in Bronfenbrenner’s model along with other elements of the micro-system such as school, neighborhood, religious groups, extended family, which are also of indispensable importance for the child’s development. It is well documented that French school tries to promote a unique and powerful value system, a model of behavior and knowledge that is frequently different from that of the non French families. The French policy emphasizes assimilation, competitiveness, priority of logic-mathematic competencies, individualism, secularity, etc. (Bastide, 1982; Felouzis, 2003; Mesmin, 2001). A child from immigrant families must adapt to these value systems (Baubet & Moro, 2000; Malewska-Peyre, 1991; Moro, 1998; Streiff-Fénart, 2006).

In the absence of relevant literature, our predictions concerning the structure and organization of the three concepts of interest are exploratory. We expected that differences in the personal experiences of children from dissimilar family settings would influence the way concepts were constructed as well as the processes employed in the construction and distinction of semantic dimensions. We hypothesized that the concepts of violence and intelligence might be more similar because of shared experiences at school, whereas conceptualization of religion, as more related to family practices, might reflect cultural differences to a larger extent. Since French parents promote individualism and competitiveness more than immigrant parents (Bril, Dasen, Sabatier & Krewer, 1999), we also presumed that the structural and semantic organization of the concepts would reflect these parental educative practices, i.e., participants with French parents would produce more complex organizations (extension) and semantic

networks. As our participants exhibit similar French language performance in school and come from the same low socioeconomic status, we consider that the differences in the organizations of the social concepts might be more attributed to family rearing practices.

Method

Participants

The participants were 228 young adolescents, including 114 boys (mean age = 12 years and 4 months, $SD = 9.59$ (months)) and 114 girls (mean age = 12 years and 2 months, $SD = 8.81$ (months)). They were divided into two major groups: one group of adolescents with French parents ($n=114$) and one group of bilingual children with parents born in foreign countries ($n=114$). For each of the three concepts studied, the total number of participants was divided into six sub-groups for each of the two major groups. a) Violence concept: 38 children, 19 girls and 19 boys, with a mean age of 12 years and 1 month; b) Religion concept: 38 children with a mean age of 12 years and 3 months; c) Intelligence concept, 38 children with a mean age of 12 years. All 228 participants came from low socioeconomic status families (Verkuyten, 2001), and they were attending large public schools in a ZEP area (Zone for Educational Priority, for children and adolescents with difficulties) while living in the Parisian suburbs in huge apartment complexes (“Cité”, in French). All participants were “average” level students (as opposed to “good” level) in respect to French language.

Material and procedure

In this study, we explored the information assessed through association tasks. During a single class session, we asked children to write down the first three words that came to their mind after hearing the words “violence”, “religion” and “intelligence”. This task was the first on a questionnaire that consisted of 46 questions. The procedure took place in the classroom with the teacher being present.

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Statistical analyses

We applied the method proposed by Márquez (Márquez & Friemel, 2005). This technique can be applied to social psychological data to study the structure of the representational fields of social representations. Two dependent variables were studied: the “extension” and the stability of cognitive organization of concepts. The quantitative indicator of “extension” is the ratio of the total number of words produced by all the participants and the number of different words. The “extension” of a concept demonstrates its structural complexity and its conceptual richness.

The stability was measured by the indicator “hapax”.¹ The indicator of “hapax” is the ratio of the number of words appearing only once by the total number of different words. The indicator of “hapax” is a measure of stability and consistency of a representation (Flament & Rouquette, 2003; Márquez & Friemel, 2005, Márquez & Lammel, 2005). In order to compare intergroup structural organization of representations of “religion”, “violence” and “intelligence” we employed the χ^2 criterion to identify the significance of the differences between groups in the indicators of extensions and hapax.

¹ The term “hapax” stems from the ancient Greek word “ἅπαξ” which means “once” in opposition to “twice or a number of times”.

For the semantic analyses, we used the EgoNet software program. We adapted this software to analyze the relationship between the various productions of words. First, we identified the three words most frequently cited by all the participants of a given group. Secondly, we connected them to the two other words given by the participants who indicated one of the three more frequently cited word. EgoNet with Visualyzer are designed to graphically display small and mid-size networks. It enables multiple network analyses to be conducted as well. We considered that it offered an excellent methodological tool to analyze the underlying semantic conceptualization of complex social concepts in the children of our two groups. Then we analyzed different aspects of the semantic networks: diameter², average geodesic distance³, density⁴, degree of centralization⁵, closeness in centralization⁶, betweenness in centralization⁷, number of hierarchical clusters⁸, total nodes, and total links.

Results

First, the concept structure analysis results (extension and hapax indicators) for participants with French parents and separately for participants with foreign parents are presented in Table 1. Crosstabulation results follow and then, results from the analyses of the semantic networks are presented starting from their description (Figures 1-6) and proceeding to the statistical characteristics of these networks (Table 2).

The concept of violence

As we expected, the two groups did not differ significantly in terms of concept structure (Table 1). No significant differences neither for the “extension” indicator nor for the “hapax” indicator between the groups were found (Extension: $\chi^2 = 0.5$, $p > .05$; Hapax $\chi^2 = 1.52$, $p < .05$). In both groups, the concept of violence has a very high stability, and the inter-individual variations are not great. The concept of violence is not well defined in either group. We can say, therefore, that violence is a fuzzy concept for both groups without an important prototypical element. However the lexical knowledge associated with the conceptual field of violence is richer in “G1” than “G2” and “G2” shows a more homogeneous representation than “G1”.

Table 1. Concept Structure Analysis results

Group	Measure	Concept		
		Violence	Religion	Intelligence
Participants with French parents	Indicator extension	.39	.44	.53
Participants with foreign parents	Indicator extension	.33	.32	.51
Participants with French parents	Indicator hapax	.25	.33	.37
Participants with foreign parents	Indicator hapax	.17	.17	.40

The semantic network on violence for the participants with French parents is presented in Figure 1 and for the participants with immigrant parents in Figure 2.

² Diameter is the longest distance within the network.

³ The geodesic distance is defined as the length of the shortest path between nodes.

⁴ Density is the ratio of total number of links over the maximum possible links.

⁵ The Degree of centralization measures the extent to which a word has high centrality in relationship to others. The larger the centralization score is, the more central the network is.

⁶ Closeness in centralization measures how close a word is to all other words in the network. The sum of these geodesic distances for each word is the “farness” of the word from all others.

⁷ The betweenness in centralisation calculates the proportion of times that the words are “between” other words in order to arrive at a raw score for it.

⁸ Network analyses employ Euclidean Distance and Pearson correlation to measure similarity and dissimilarity.

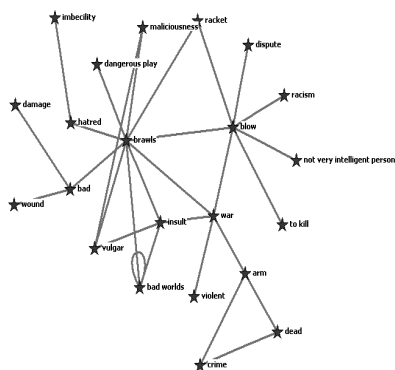


Figure 1. Semantic network of violence, for participants with French parents.

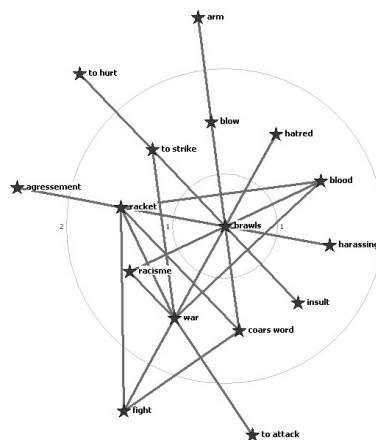


Figure 2. Semantic network of violence, for participants with foreign parents.

The graphics are connected and undirected. In regard to the concept of violence, differences can be observed in the number of total nodes and total links in the two groups: 23 nodes and 30 links in the network for participants with French parents and 17 nodes and 23 links in the other group. This data suggests that the semantic network of the participants with French parents is more complex than that of the other group. The differences in diameters and average geodesic distance (Table 2) show a more heterogeneous semantic organization in young adolescents with French parents. The network of participants with French parents has two hierarchical clusters, while the network of the other group is organized around one main element and has only one cluster. The results of these analyses support our predictions of differences in the outcomes for young adolescents in the two groups: individual differences are higher in the first group than in the second.

Table 2. Network analysis results

Groups	Semantic network indices	Violence	Concept Religion	Intelligence
Participants with French parents	diameter	5	5	6
Participants with immigrant parents	diameter	4	4	5
Participants with French parents	average distance	2.69	2.59	2.98
Participants with immigrant parents	average distance	2.3	2.49	2.31
Participants with French parents	density	0.11	0.09	0.09
Participants with immigrant parents	density	0.16	0.12	0.11
Participants with French parents	DC	96.75%	97.53%	98.41%
Participants with immigrant parents	DC	94.16%	95.00%	99.63%
Participants with French parents	CN	48.29%	62.82%	28.40%
Participants with immigrant parents	CN	60.34%	62.92%	90.18%
Participants with French parents	CB	57.84%	81.88%	34.11%
Participants with immigrant parents	CB	63.38%	71.75%	16.47%
Participants with French parents	N of HC	2	1	2
Participants with immigrant parents	N of HC	1	1	2
Participants with French parents	Total Nodes	23	27	24
Participants with immigrant parents	Total Nodes	17	26	18
Participants with French parents	Total Links	30	34	27
Participants with immigrant parents	Total Links	23	41	18

Key: DC: Degree of centralization; CN: Closeness in centralization; CB: Betweenness in centralization; N of HC: Number of hierarchical clusters.

The concept of religion

We predicted that the structure of the concept of religion would differ in the two groups. Findings confirm our presumptions. However, even if the “extension” of the concept is much higher in French participants than it is in the other group, the chi-square test does not give a significant value ($\chi^2=1.9$). Nevertheless, the results suggest that the quality of communication related to religion is higher in the group of participants from French parents than in the other group. The analyses of the “hapax” reveal significant differences. Data confirm our prediction that French children have more heterogeneous representation than do children of foreign parents ($\chi^2=5.12$, $p < 0.5$). The semantic network for religion of participants with French parents is represented in Figure 3 and of Ss with immigrant parents in Figure 4.

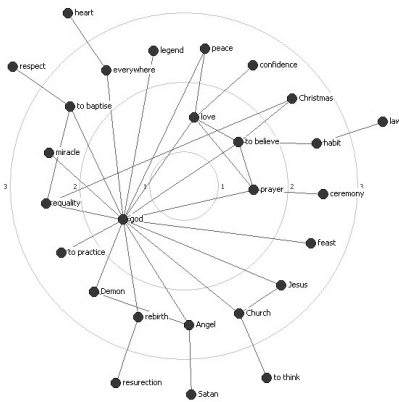


Figure 3. Semantic network of religion, for participants with French parents.

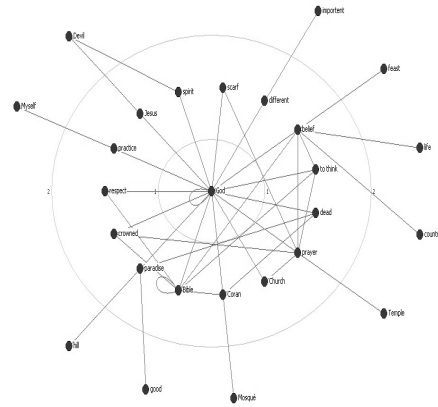


Figure 4. Semantic network of religion, for participants with immigrant parents.

The graphics are connected and undirected. Despite our prediction, the semantic network shows a high similarity in the two groups: 27 nodes in the network of participants with French parents and 26 nodes in the other group’s network. There is only one cluster in each group. However, the semantic network of the participants with immigrant parents has noticeably more links (41) than in the other group (34). This finding suggests that the semantic network of the participants with immigrant parents is more complex than that of the other group. However the differences in diameters and betweenness in centralization (Table 2) reflect a more heterogeneous semantic organization in the participants with French parents.

The concept of intelligence

We predicted that no important differences would appear in the structure of the concept of intelligence in the two groups. Our supposition was verified in terms of the “extension” ($\chi^2=0.38$, $p < .05$) and of the “hapax” ($\chi^2=0.117$, $p < .05$). The semantic network of intelligence for participants with French parents is presented in Figure 5 and for participants with immigrant parents in Figure 6. Despite our predictions, the semantic network of the concept of intelligence demonstrates the biggest differences between the two groups. The first focal difference is that the graphic for the participants with immigrant parents is not connected. This suggests that two kinds of intelligence can be distinguished in this group. At the network level, two independent clusters appear. In the group of participants with French parents, the semantic network is also organized in two clusters but these are connected. In addition, differences can be observed in the number of total nodes and total links in the two groups with regards to the concept of intelligence: 24 nodes and 27 links in the network of participants with French parents and 18 nodes and 18 links in the other group’s network, suggesting that the semantic network of the

participants with French parents is more complex than that of the other group. The differences in diameters, average geodesic (distance) and density (Table 2) reflect a more heterogeneous semantic organization in the same group. However, due to the two non-connected clusters, the data on degree of centralization, and that of closeness and betweenness in centralization suggest a less centralized conceptualization of intelligence in the network of participants with immigrant parents. Outcomes from these analyses do not support our predictions of similarities in the conceptualization of intelligence in the two groups, but support our prediction of individual differences in the participants with French parents.

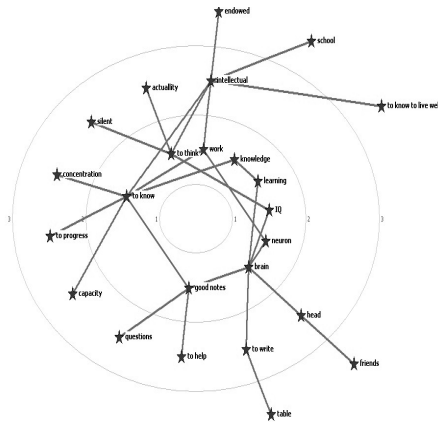


Figure 5. Semantic network of intelligence, for participants with French parents.

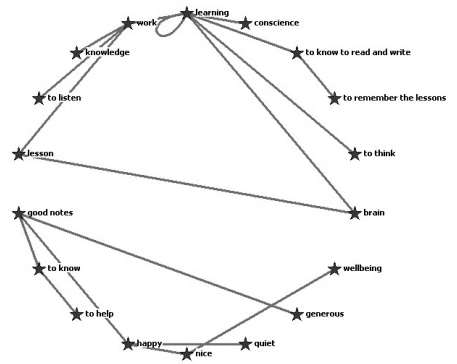


Figure 6. Semantic network of intelligence for participants with immigrant parents.

Discussion and Conclusions

The current results substantiate some of the major suppositions regarding differences and similarities in the structure and in the semantic networks of the concepts of violence, religion and intelligence between young adolescents with French or with immigrant parents in the Parisian suburbs.

Using Bronfenbrenner’s (1979, 1986; Bronfenbrenner & Ceci, 1994; Ceci, 2006) model we might expect that differences in cultural values transmitted by the French and the immigrant families would affect the structure and the semantic organization of the concepts. Bronfenbrenner (1979) has called for the eco-systemic study of human development considering that a child’s development is the product of multiple relationships in the context where the child is growing up. Bronfenbrenner emphasized the primordial importance of the relationship between the various elements of this context such as school and home, religious groups and mass media. We considered that children going to the same school and in the same neighborhood area but living in different family cultures would develop social concepts reflecting these differences. We considered that the context of the French educational system and family tradition would permit children with French parents to produce more complex concepts at both structural and semantic levels, because they do not have to cognitively manage contradictory systems.

However, we expected that these differences would be lesser in the case of concepts where young adolescents shared experiences and discourses in the school and in the neighborhood. Therefore, we also expected that violence and intelligence would have more similar conceptual structures and semantic networks in young adolescents with French and immigrant parents than religion which is more influenced by the family’s practices.

In terms of the structure of the concepts, our expectations were supported. However, the semantic network of intelligence shows a highly different conceptualization in the two groups. This finding suggests that it is important to study structural as well as semantic levels of a concept in comparative studies in order to understand the processes of concept organization.

Other data from the semantic network analyses demonstrate major differences in the concept of intelligence for the two groups. We supposed that young adolescents attending the same school would share a common concept of intelligence. However, our data on the structure of the concept as well as on the semantic network refute our predictions. Young adolescents with immigrant parents have two clearly separated concepts of intelligence. One corresponds to the social and emotional aspect of intelligence (figure 6: to help, nice, generous, quiet), the other corresponds to technological intelligence (figure 6: learning, knowledge, to read, to write) as identified by several authors in African and North African societies, (Dasen, Barthelemy, Kan, Kouame, Daouda, Adjei, & Assande, 1985; Goze, 1994; Mbuyi Mizeka, 2001; Mugny & Carugati, 1985; Mundy-Castle, 1974; N'Tunga, 1979; Pels, 1999). In the group of adolescents with French parents, the social aspect of intelligence appears only in peripheral position. The occidental conception of intelligence is related to cognitive activities such as learning, thinking, calculating, and so on (figure 5: brain, to know, intellectual, to think). These differences might have depicted the influence of parental ethnotheories of intelligence in their offspring concept formation.

The present study reveals some consistent difference patterns, across the two groups: the participants with French parents had more complex and less “homogeneous” concepts than the participants with immigrant parents. It could be possible that the “individualistic” values permit a more individualistic diversification of representations in young adolescents with French parents. However, several authors have claimed that the vocabulary of children with immigrant parents is more limited than that of those with French parents (Charlot, Bautier & Rochex, 1993; Forges, 1995; Lopez, 1999; Lucchini, 2005). The differences in the complexity of the concepts may also be explained on this linguistic level. To avoid this problem we selected participants with the same French language performance level at school. We admit nevertheless that lexical tests have to be administered to participants during further research in order to avoid bias in our results.

The data on the concept of violence illustrate the importance of violence in everyday life of young adolescents. An increasing amount of literature is dealing with the phenomenon of violence in French schools (Aubert, 2001; Debarbieux, 1996). The similarity of the structure of this concept insinuates that it is a function of everyday experience and contributes to adaptation to the environment. With regard to the concept of religion, God is the word more frequently cited in both groups' semantic networks. A lot of research has sought to understand children's concepts of God (Hyde, 1990; Jansen & Hart, 1994; McIntosh & Spilka, 1998) demonstrating the central role of God in the conceptualization of religion. We can explain the similarities between the two samples by the fact that the weight of God is primordial in all monotheistic religions. As the young adolescents in our sample have grown up in monotheistic traditions, regardless of religious practice, we consider that this lexical proximity can be correlated to this evidence. Conversely, God is situated exactly in the centre of the semantic network of participants with immigrant parents, whereas God takes a more peripheral position in the other group. These differences can be explained by the fact that 91% of participants with immigrant parents declare that they practice a religion and pursue religious education whereas only 21 of participants with French parents do so. Therefore, we can state that the influence of the family's rearing practices, attitudes and abstract discourses are decisive in the conceptualization of religion in young adolescents. Considering the increasing diversity of the school population within industrialized countries in a “globalized world”, we believe that the study of how children and adolescents conceptualize the world around them is very important. How do they try to reconcile contradictory value systems, forms of socialization and objectives? In terms of the three concepts studied in this article, a substantial amount of literature and statistical data attest to the increase of violence, conflicts related to religion in the schools and major difficulties in the learning process in the Parisian suburbs.

The results of the current investigation confirm differences in basic concepts between young adolescents with French parents and those with immigrant parents. These findings, however, are limited because of the absence of any relevant comparative literature. Our

expectations merit further investigation with more testable hypotheses. We are continuing our research in this perspective while further research in the unexplored area of children's representations of important social concepts in multicultural environments would greatly facilitate teaching and education in general. Accumulation of empirical evidence for intercultural differences in the structural and semantic organisation of social concepts, with basic importance in the everyday life of young children and young adolescents, can provide elements to help improve the organization of their eco-systemic reality.

References

- Aubert, J.-L. (2001). *La violence dans les écoles* [Violence at schools]. Paris: Odile Jacob.
- Baubet, T., & Moro, M. R. (2000). L'approche ethnopsychiatrique [Approche of ethnopsychiatry]. *Enfances & Psy*, 12, 111-117.
- Bastide, H. (1982). Les enfants d'immigrés et l'enseignement français. Enquête dans les établissements du premier et de second degré [Immigrant children and the French teaching system. Survey in the primary and secondary schools.]. *Population*, 37, 905-910.
- Bril, B., Dasen, P., Sabatier, C., & Krewer, B. (1999). *Propos sur l'enfant, l'adolescent. Quels enfants, pour quelles cultures ?* [About the child and the adolescent. Which children, for which culture?]. Paris: L'Harmattan.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.
- Bronfenbrenner, U. (1986). Ecology of the family as a context for human development. *Developmental Psychology*, 22, 723-742.
- Bronfenbrenner, U., & Ceci, S. (1994). Nature-Nurture Reconceptualized in Developmental Perspective: A Bioecological Model. *Psychological Review*, 101, 568-586.
- Cartwright, D. (Ed.) (1951). *Field theory in social science: Selected theoretical papers by Kurt Lewin*. New York: Harper & Row.
- Ceci, S. J. (2006). Urie Bronfenbrenner (1917–2005). *American Psychologist*, 61, 173–174.
- Charlot, B., Bautier, E., & Rochec, J.-Y. (1993). *Écoles et savoirs dans les banlieues et ailleurs* [Schools and knowledge in the suburbs and elsewhere]. Paris: Armand Colin.
- Dasen, P., Barthelemy, D., Kan, E., Kouame, K., Daouda, K., Adjei, K., & Assande, N. (1985). N'glouèlè, l'intelligence chez les Baoulé [The intelligence between the Baoulé]. *Archives de Psychologie*, 53, 273-324.
- Debarbieux, E. (1996). *La violence en milieu scolaire 1. État des lieux* [School violence 1. Current Situation]. Paris : ESF.
- EgoNet (software) (2005). Medical Decision Logic, Inc.
- Felouzis, G. (2003). La ségrégation ethnique au collège et ses conséquences [Ethnic segregation in college and its consequences]. *Revue Française de Sociologie*, 3, 413-447.
- Flament, C., & Rouquette, M. L. (2003). *Anatomie des idées ordinaires* [Anatomy of ordinary ideas]. Paris: Armand Collin.
- Forges G. (Ed.) (1995). *Enfants issus de l'immigration et apprentissage du français langue seconde* [Children from immigrant families and learning French as a second language]. Paris: Didier-Érudition.
- Georgas, J., & Berry, J. W. (1995). An ecocultural taxonomy for cross-cultural psychology. *Cross-Cultural research*, 29, 121-157.
- Goze, T. (1994). *L'Intelligence en Afrique* [The intelligence in Africa]. Paris: L'Harmattan.
- Hyde, K. (1990). *Religion and Adolescence: A comprehensive review of the research*. Birmingham, AL: Religious Educational press.
- Janssen, J., De Hart, J., & Gerardts, M. (1994). Images of God in adolescence. *The International Journal for the Psychology of Religion*, 4, 105-121.
- Levine, M. D. (1999). *Higher order cognition. Developmental Variations and Learning Disorders* (pp. 217-260). Cambridge, MA: Educators Publishing Service.
- Lammel, A. (1998). Mot, concept, processus de catégorisation [World, concept, categorization process]. In D. Dubois (Ed.), *Catégories et systèmes symboliques* [Categories and symbolic systems] (pp. 129-149). Paris : Edition Kimé.

- Lammel, A., & Kozakai, T. (2005). Percepción y representación de los riesgos de la contaminación atmosférica según el pensamiento holístico y el pensamiento analítico [Perception and representation of the risks of air pollution according to the holistic thinking and analytical thinking]. *Desacatos*, 19, 85-98.
- Lewin, K. (1936). *Principles of topological psychology*. New York: McGraw-Hill.
- Lopez, J-A. (1997). Représentations identitaires et apprentissage du français [Representations of identity and learning French]. *Travaux de Didactique du Français Langue Etrangère*, 37, 43-60.
- Lucchini, S. (2005). L'enfant entre plusieurs langues : à la recherche d'une langue de référence [Children between several languages: in search of a language reference]. *Enfance*, 57, 299-315.
- McIntosh, D. N., & Spilka, B. (1997). *The Psychology of Religion: Theoretical approaches*. Boulder, CO: Westview Press.
- Malewska-Peyre, H. (1991). Reflexions sur les valeurs, l'identité et le processus de socialisation [Reflections on values, identity and socialization process]. *Droit et Société*, 19, 215-224.
- Márquez, E., & Friemel, E. (2005). Activation des schèmes cognitifs de base et actualisation des valeurs associées au travail [Activation of basic cognitive patterns and updating of core values at work]. *Papers on Social Representations*, 14, 1-28.
- Márquez, E., & Lammel A. (2005, June). Representación social de la violencia en niños de 4 a 14 años. Estudio descriptivo del campo representacional [Social Representation of violence in children 4 to 14 years. Study of the representational field]. *30^{ème} Congrès de la Société Interaméricaine de Psychologie*. Buenos Aires.
- Mbuyi Mizeka, A. (2001). *L'intelligence cognitive du jeune enfant d'Afrique Noire* [The cognitive intelligence of the young child in Africa]. Paris: L'Harmattan
- McIntoch, D., & Spilka, B. (1998). Children's God Concepts: Influences of Denomination, Age, and Gender. *International Journal for the Psychology of Religion*, 8, 49-56.
- Mesmin, C. (2001). La Prise en charge ethnoclinique de l'enfant de migrants [The ethnoclinique care of children of migrants]. Paris: Dunod.
- Moro, M. R. (1998). *Psychopathologie Transculturelle des enfants de migrants* [Transcultural psychopathology of migrant children]. Paris: Dunod.
- Mugny, G., & Carugati, F. (1985). *L'intelligence au pluriel. Les représentations sociales de l'intelligence et de son développement* [The intelligence plural. Social representations of intelligence and its development]. Cousset: Editions Delval.
- Müller, U., Sokol, B., & Overton, W. F. (1998). Constructivism and development. Reply to Smith's Commentary. *Developmental Review*, 18, 228-36.
- Mundy-Castle, A. C. (1974). Social and technological intelligence in western and non-western cultures. *Universitas*, (University of Ghana, Legon), 4, 46-52.
- Nisbett, R. E., Peng, K., Choi, I., & Norenzayan, A. (2001). Culture and systems of thought: Holistic versus analytic cognition. *Psychological Review*, 108, 291-310.
- N'Tunga, N. (1979). La nature des différences actuelles entre l'intelligence africaine et l'intelligence occidentale [The nature of the current differences between African intelligence and Western intelligence]. *Revue de Psychologie Appliquée*, 29, 53-61.
- Pazer, S. (1992). The development of Place Categorisation in Children. *Children's Environments*, 9, 20-41.
- Pels, T. (1999). Notion de cql chez les Marocains et socialisation de l'enfant [Concept of cql among Maroccans and socialization of children]. In B. Bril, P. Dasen, C. Sabatier, & B. Krewer (Eds.), *Propos sur l'enfant et l'adolescent Quels enfants, pour quelles cultures ?* [About the child and the adolescent. Which children, for which culture?], (pp. 233-233). Paris : L'Harmattan.
- Smith, E. E. (1988). Concepts and thought. In R. J. Sternberg & E. E. Smith (Eds.), *The psychology of human thought* (pp. 19-49). Cambridge, UK: Cambridge University Press.
- Sternberg, R. J., & Ben-Zeev, T. (2001). *Complex Cognition: The Psychology of Human Thought*. Cambridge, UK: Cambridge University Press.
- Streiff-Fénart, J. (2006). A propos des valeurs en situation d'immigration. Questions de recherche et bilan des travaux ». *Revue Française de Sociologie*, 47, 4, 851-875.
- Verkuyten, M. (2001). Global self-esteem, ethnic self-esteem, and family integrity: Turkish and Dutch early adolescents in The Netherlands. *International Journal of Behavioral Development*, 25, 357-366.
- VisualLyzer (software) (2005-2006). Medical Decision Logic, Inc.
- Vygotsky, L. S. (1978). *Mind and Society: The Development of higher mental processes*. Cambridge, MA: Harvard University Press.

Wertsch, J. V. (1997). *Vygotsky and the formation of the mind*. Cambridge, MA: Harvard University Press.