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When teaching style matches students' epistemic (in)dependence: The moderating effect of perceived epistemic gap

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In a 2x2x2 factorial design, 3rd year Romanian psychology students (N=94) were assigned into 2 groups according to the extent to which they acknowledged an epistemic dependence (low vs. high) toward their professor. They then compared the competence of 3rd year students to that of 1st year or 5th year students. Finally, they were exposed to a persuasive counter-attitudinal message from an epistemic authority, framed in an authoritarian vs. democratic style. The main dependent variable was the influence of the counter-attitudinal message. Results show an interaction between the three variables. No effects were found among students in the upward social comparison condition in which they felt particularly incompetent. The expected interaction between style and dependence was significant in the downward comparison condition where participants felt more competent than 1st year students. Students high in perceived epistemic dependence were more influenced by the authoritarian style than those low in epistemic dependence. The reverse tended to be true for participants exposed to the democratic style.

Is learning achieved to a superior level as a result of interactions with a democratic teacher rather than an authoritarian teacher (Lewin, Lippitt, & White, 1939), as one generally believes in Western, democratic society? In reality, the superiority of learning from democratic instructors depends on different factors. In a study conducted with 1st year psychology students (Mugny, Quiamzade, Pigièrè, Dragulescu, & Buchs, 2002), participants first indicated whether they considered themselves more or less competent for predicting the results of a bogus study on the importance of avoiding a hierarchy among individuals in a group of friends. They were then confronted with an epistemic authority (a university

professor) who contradicted this initial belief based on bogus scientific evidence demonstrating a positive relationship between group members' satisfaction and the degree of leadership in the group. The results revealed an interaction between the communication style of the authority (democratic *vs.* authoritarian) and the participants' perceived competence to predict influence of the epistemic authority. Participants who considered themselves as highly competent were more influenced when confronted with a democratic source than when confronted with an authoritarian source, while low self-competence participants did not clearly differ as a function of the style of epistemic authority. Another study using the same paradigm (Quiamzade, Mugny, Dragulescu, & Buchs, 2003) considered the students' year of study. Compared to a group of 1st year students, a group of 4th year students described themselves as more competent. The source's style (authoritarian *vs.* democratic) was manipulated as in the previous study. The results highlighted a significant interaction between the style and the year of study. The first year students were more likely to change their initial belief when confronted with an authoritarian style rather than a democratic style. However, the reverse for the 4th year students did not reach significance. Thus, in certain circumstances, such as when students are reassured of their competence, they benefit more from a democratic style, whereas in other circumstances, they benefit more from an authoritarian style. The present study asserts the hypothesis that the strength of one style over the other depends on the degree of informational dependence that the target experiences in relation to the source of influence (Deutsch & Gerard, 1955).

Indeed, two studies (Mugny, Chatard, & Quiamzade, 2006) revealed that the influence of a democratic style (rather than authoritarian style) appeared among students who judged themselves to be independent from their professors (epistemic independence). Because these students refused the idea that competence can be assessed via their dependence toward their teachers, the authoritarian style threatened the target's perceived self-competence, in a context that is highly diagnostic of competence (Mugny, Quiamzade, Falomir, & Tafani, 2006), and did not influence these target's initial beliefs. The democratic style, on the contrary, relieved this threat. This difference in the appropriation of information was not observed in students who perceived themselves to be dependent on the epistemic authority (epistemic dependence). Another study (Mugny, Quiamzade, & Trandafir, 2006) demonstrated that an authoritarian style induced more influence than a democratic style when students were in a state of epistemic dependence toward the source (i.e., students accepted the idea that their competence was measured by their appropriation of information presented by their professors). When in a state of epistemic dependence, the targets are motivated to elaborate the message of the competent source who guides them towards the knowledge to acquire. In this study, a democratic style even seemed to possess inhibitory properties that compromised the appropriation of the message among students placed in a state of epistemic dependence. In summary, students' epistemic dependence tends to favour an authoritarian style while independence tends to favour a democratic style.

The current study aims to investigate further the effects of perceived epistemic dependence. The main hypothesis is that greater influence from an authoritarian style (*vs.* a democratic style) will be observed among students high in epistemic dependence, and that the reverse effect will be observed for those low in epistemic dependence. A more precise hypothesis was tested regarding the threat represented by the influence of the source on the target. In fact, the superior influence of the authoritarian style found in the study by Mugny, Quiamzade and Trandafir (2006) was related to the fact the perceived dependence allowed the source to be interpreted as non-threatening in spite of its authoritarian style. The transmission of knowledge was likely achieved because the subject trusted the source (cf. McGinnies & Ward, 1980), and because a learning relationship was created in which a didactic contract was established (cf. Schubauer-Leoni, 1989) that assigned distinct roles to the target and the source (i.e., the source provided the knowledge and the target acquired the knowledge). In fact, correlational analyses indicated that the source's authoritarian style induced more influence when the scientific credentials of the source were recognized and when students perceived the academic investment to be lengthier to attain the same level of expertise as the source. The

notion of epistemic distance (cf. Ellis & Kruglanski, 1992), which concerns the gap perceived between one's knowledge and the knowledge to be acquired, is relevant here. The epistemic distance did not threaten the identity of the students since the more they were influenced, the more they perceived their own knowledge to increase in proportion to the source's knowledge. Furthermore, the influence was even more marked when the students believed that they had found more correct solutions to the previous task and were more confident of their answers. This means that in spite of the epistemic gap that separated the students from the expert source, they did not feel totally incompetent, which allowed for some degree of learning.

To create a context where epistemic distance introduces a threat or non-threat for self-competence, we used social comparisons between student cohorts. The comparison task made the students feel either very competent (downward comparison; cf. Hakmiller, 1966) or very incompetent (upward comparison). In fact, social comparisons have been shown to produce perceptions of self-competence that were low when comparing to a superior group, and high when comparing to an inferior group (e.g., Martin, Suls, & Wheeler, 2002). Consequently, sources that are more competent than the target, including those that are preferred targets for social comparison (Blanton, Buunk, Gibbons, & Kuyper, 1999; Wheeler, 1966), can represent a threat to the target's self-esteem (Major, Testa, & Bylsma, 1991; Morse & Gergen, 1970). This threat is produced because the superior competence of the source renders the target's subjective feeling of incompetence salient. It should be noted that upward comparison is even more problematic when comparing to individuals similar to oneself (Lockwood & Kunda, 1997; cf. Tesser, 1988). This is relevant in the present study where students have to compare themselves to other students. An unfavourable comparison may provoke the individual to disengage him- or herself from the task (cf. Marsh & Hau, 2003) which in terms of influence suggests a confirmation of initial beliefs.

On the contrary, perceiving oneself as better than others guarantees the feeling of competence and maintains high self-esteem (Brown, 1986; Wills, 1981). Individuals who are motivated to maintain their high self-esteem often do so by actively performing downward comparisons (e.g., Gibbons & McCoy, 1991), especially when an acute threat to self-esteem is present (Wood, Giordano-Beech, & Ducharme, 1999). Downward comparisons reassure individuals of their competence, or at least minimize the threat. Indeed, influence dynamics were previously shown to give an advantage to the authoritarian style (over the democratic style) when the context did not represent an affront to the self-competence of students in a state of epistemic dependence. In an effort to replicate these findings, downward social comparisons were induced. In addition, the democratic style should be more influential on students who are less likely to recognize their informational dependence. However, the perception of a large epistemic gap between the source and the target (i.e., extremely low self-competence perceived as a result of upward comparison) should hinder these influence dynamics.

Method

In a 2x2x2 plan, 3rd year undergraduate psychology students were identified according to their level (low vs. high) of epistemic dependence (i.e., the extent to which they recognized an epistemic dependence toward their professors). They were then asked to compare the competence level of their cohort to that of a cohort of 1st year students (downward comparison) or a cohort of 5th year students (upward comparison). Finally, they were given a message from an epistemic authority (in an authoritarian or democratic style) contradicting their representation of an ideal friendship group.

Participants

One hundred-two 3rd year psychology undergraduates from a Romanian university participated in the study. Eight participants were excluded: 3 because they did not respond to

the social comparison task, 4 because they did not complete this task following the instructions, and 1 who did not complete the influence measure. The remaining sample consisted of 80 women and 14 men¹ with a median age of 22 years.

Pretest

In order to gather data on the participants' initial representation of an ideal friendship group, they answered a general question asking whether or not it is necessary to have a leader in a group of friends (1 'necessary to have a leader'; 4 'not necessary to have a leader'). The participants then answered demographic questions regarding sex, age, country of origin and year of study.

Prediction task

The participants were asked to read a brief description of a fictitious study on satisfaction and leadership in friendship groups (a full description of the procedure can be found in Mugny, Moliner, & Flament, 1997). The description related to a longitudinal study on groups of adolescents and young adults that investigated the relationship between individuals' satisfaction for belonging to a group of friends and the frequency of leadership behaviours in the group. Based on observations of the groups in which the degree of leadership varied from 10% to 80% (by intervals of 10%), eight averages of satisfaction (on a scale from 1 'very weak' to 11 'very strong') were presented, some reflecting a moderate level of satisfaction (7.5, 7.6., 7.7 and 7.9) and others a greater level (9.5, 9.6, 9.8 and 9.9). The participants' task was to describe the relationship between the degree of satisfaction observed in the groups of friends and the degree of leadership in these groups.

Acknowledgement of informational dependence

Among a series of questions related to the participants' representation of knowledge (which will not be considered here), one question dealt with the influence of epistemic authority in the university (cf. Guimond, 2001). The participants responded to the question, "What proportion of your current knowledge in psychology depends on the influence exerted by your professors?" on a scale from 0% to 100%. Two groups were created in which 41 participants who expressed a lesser degree of epistemic dependence (low epistemic dependence; scores equal to or below 50, $M=31.88$, $SD=14.58$) were separated from 53 participants who expressed a higher degree of epistemic dependence (high epistemic dependence; scores above 50, $M=75.85$, $SD=12.35$). To verify this distinction, participants were asked to estimate how many years of study and professional experience (on a scale from 1 to 21 semesters) they would need to acquire the same level of knowledge as the epistemic authority. They also estimated the percentage of their knowledge about an ideal friendship group compared to the professor's knowledge about an ideal friendship group.

Induction of social comparison

The participants were then asked to compare the students from their own cohort (3rd year) to the 1st year students (downward comparison) or the 5th year students (upward comparison). In order to ascertain that the upward and downward comparisons were fully established, a negative interdependence comparison (cf. Quiamzade, Mugny, & Buchs, 2005) was kept constant. Thus, the participants had to divide 100 points between the two groups (own group against target group) according to four criteria: competence, qualification, capability, and expertise. Three participants whose points did not total 100 were excluded from further analysis.

Message style

During the influence phase, the participants were presented the fictitious study results and were told that the study was published in a renowned scientific journal by a research professor who was supposedly well-regarded in his field. The research professor was in fact an epistemic authority because of his expert status and highly-regarded competence. The results were presented as a histogram that clearly demonstrated the relationship between the satisfaction in belonging to a friendship group and the average rate of leadership. This relationship was contrary to what was actually observed in the participants' pre-test answers and predictions (see below). Presenting the source's conclusion that "the typical ideal friendship group is a friendship group where a leader is present" was a pretext for inducing the source's style. Some participants then read the authoritarian message asserting that "Each individual must comply with this evidence. For example, I would never allow a student to pass who believed that an ideal friendship group does not have a leader, regardless of the arguments provided". In contrast, the democratic message asserted that, "Everyone needs to make up their own mind about this evidence. For example, I would never refuse to pass a student who believed that an ideal friendship group does not have a leader, if his/her arguments are well developed". As a manipulation check, the participants had to express the degree to which these conclusions were authoritarian (4 point scale; 1 'not authoritarian; 4 'authoritarian').

Influence

Two measures of influence were used. The first concerned the participants' agreement with the researcher's conclusion that an ideal friendship group must have a leader. Their manifest agreement was assessed on an 8 point scale (1 'total disagreement' to 8 'total agreement'). The second measure addressed a deeper change (*appropriation*) and concerned the relevance of equality in the representation of an ideal friendship group (Moliner, 1988; Quiamzade, 2003). The participants received a short text describing a group of friends who were satisfied in their group but who were characterized according to a functional hierarchy. On a 4 point scale from 1 'very probably yes' to 4 'very probably no', they assessed the degree to which this group was an ideal friendship group. This measure captures changes in the structure of the representation of the friendship group. A transformation of the dominant representation is observed when the participant believes a group of friends may be considered as an ideal friendship group even in the presence of leadership.

Results

The principal analysis used was an ANOVA performed according to a 2 (authoritarian vs. democratic style) x 2 (upward vs. downward comparison) x 2 (low vs. high recognition of epistemic dependence) design. The variations in degrees of freedom are due to missing data.

Manipulation check

Initial representation of an ideal friendship group

Regarding the question of whether or not a friendship group should have a leader, more than 78% of participants gave the answers 3 or 4, thereby rejecting the notion that an ideal friendship group is based on a hierarchy (Moliner, 1988). The average degree of satisfaction attributed to members of friendship groups were calculated for the 4 less hierarchical groups and the 4 more hierarchical groups. The less hierarchical groups were judged to be more satisfied ($M=9.07$, $SD=.83$) than the more hierarchical groups ($M=8.23$, $SD=.84$), $t(90)=4.48$, $p<.001$.

Recognition of informational dependence

The participants were divided into 2 groups according to whether or not they acknowledged their epistemic dependence toward their professors (see the Method section). Regarding the question concerning the length of study and experience necessary to attain the same level of knowledge as the epistemic authority (from 1 to 21 semesters), we observed a main effect for epistemic dependence: participants who acknowledged an informational dependence stated that it would take them more time ($M=11.81$, $SD=4.94$) than those who did not acknowledge an informational dependence, ($M=9.60$, $SD=5.11$), $F_{(1,84)}=4.31$, $p<.05$. As for the participants' knowledge about an ideal friendship group (in percentage) compared to the knowledge of the research professor, we found a similar effect: participants who acknowledged an informational dependence asserted that they were less knowledgeable ($M=23.11$, $SD=16.53$) than those who did not acknowledge an informational dependence ($M=31.28$; $SD=16.33$), $F_{(1,84)}=5.85$, $p<.02$.

Social comparison of competencies

Regarding the comparison task, we combined the responses on the 4 items ($\alpha=.90$). The analysis of variance on the points given to 3rd year students yielded only one significant effect for social comparison, $F_{(1,86)}=350.78$, $p<.001$: participants attributed more competence to students of their own cohort when they compared themselves to 1st year students ($M=72.57$, $SD=7.91$) rather than when they compared themselves to 5th year students ($M=36.47$, $SD=10.19$). Since the participants responded according to negative interdependence (the correlation between the 2 measures was -1), the exact inverse effect was observed for the points attributed to 1st year students ($M=27.43$) and 5th year students ($M=63.53$).

Perception of style

The analysis of variance evaluating the perception of the epistemic authority yielded a significant effect: authoritarian style was perceived to be more authoritarian ($M=3.11$, $SD=.86$) than the democratic style ($M=2.40$, $SD=.85$), $F_{(1,84)}=15.38$, $p<.001$.

Dynamics of influence

Regarding the participants' manifest agreement with the epistemic authority, we only observed a marginal interaction between the target of comparison and the acknowledgement of epistemic dependence, $F_{(1,84)}=3.87$, $p<.06$. Students who compared themselves to 1st year students were more likely to accept the source's conclusions when they acknowledged their epistemic dependence ($M=5.35$) than when they did not acknowledge it ($M=4.05$), $t_{(84)}=2.216$, $p<.03$. This difference was not observed when they compared themselves to 5th year students ($M=4.52$ and $M=4.89$, respectively).

Table 1

Means of appropriation (N and standard deviation in parentheses); low scores indicate more influence

Comparison	Downward		Upward	
	Low	High	Low	High
<i>Perceived epistemic dependence</i>				
Authoritarian style	2.88 (8; .64)	2.00 (15; .53)	2.55 (11; .93)	2.42 (12; .51)
Democratic style	2.15 (13; .37)	2.64 (11; .67)	2.89 (9; .60)	2.40 (15; .50)

The results for the principal measure of this study, appropriation, showed a marginal main effect of epistemic dependence acknowledgement, $F_{(1,86)}=3.12$, $p<.08$, and a marginal interaction between acknowledgement and the style of the source, $F_{(1,86)}=3.71$, $p<.06$. We however directly decomposed the higher order interaction since it reached significance, $F_{(1,86)}=11.41$, $p<.001$. In line with our hypothesis, the interaction led to a distinction whereby the students compared in terms of upward or downward comparison (see Table 1). The interaction between the acknowledgement of epistemic dependence and the style of the source was not significant for the participants comparing themselves to 5th year students, $F_{(1,43)}<1$. No significant differences were observed between the various conditions. However, as expected, this interaction was significant for participants comparing themselves with 1st year students, $F_{(1,43)}=16.81$, $p<.001$. The decompositions show that for participants who acknowledged epistemic dependence, the authoritarian style was more influential than the democratic style, $t_{(86)}=2.660$, $p<.01$, whereas for those who did not acknowledge dependence, the democratic style was more influential, $t_{(86)}=2.663$, $p<.01$. Furthermore, among the participants who compared themselves to 1st year students, it was those who acknowledged epistemic dependence (vs. those who did not) who were more influenced by authoritarian style, $t_{(86)}=3.316$, $p<.001$. A marginal trend in the opposite direction was observed among participants exposed to the democratic style, $t_{(86)}=1.954$, $p<.06$.

Complementary analyses

Correlations indicated that manifest influence was generally associated with appropriation, $r_{(92)}=-.37$, $p<.001$ (the scales are inverted for these two measures). However, a more detailed analysis showed that this correlation was only significant when confronted with an authoritarian style, $r_{(44)}=-.62$, $p<.001$ (democratic style: $r_{(48)}=-.09$, *n.s.*; difference between correlations: $Z=-2.94$, $p<.01$).

Furthermore, we found that for participants comparing themselves to 1st year students, the correlation between their agreement with the source and the degree to which they perceived their cohort to be competent was positive and marginally significant, $r_{(47)}=.28$, $p<.06$, which indicated that the more they considered their cohort competent, the more they expressed agreement. For participants comparing themselves to 5th year students, the correlation was marginally significant and negative, $r_{(47)}=-.25$, $p<.10$ (difference between correlations: $Z=2.54$, $p<.01$), which showed that the more they considered their cohort competent, the less they tended to express agreement.

Finally, with regards to the relationship between competence and appropriation for participants comparing themselves to 1st year students, we found that appropriation was the more pronounced when they perceived their cohort to be competent, $r_{(47)}=-.33$, $p<.03$. This was not the case for participants who compared themselves to 5th year students, $r_{(47)}=-.02$, *n.s.* However, the difference between the two correlations was not significant ($Z=1.51$, $p<.13$).

Discussion

The participants' responses concerning their initial representation of an ideal friendship group demonstrated the importance of their beliefs about the absence of leadership. As a consequence, the information originating from the epistemic authority clearly contradicted their initial beliefs. The comparison task revealed expected effects: participants attributed more competence to students of their own cohort when they compared themselves to 1st year students rather than to 5th year students. Thus, as expected, the experimental induction rendered the perception of competence or incompetence salient, in a context in which participants felt inferior when they have to compare themselves to a source of superior competence (cf. Tafani, Mugny, & Bellon, 1999). It seems therefore that downward

comparison reduced the threat which stems from the epistemic gap separating the student from the epistemic authority, although other measures of perceived threat will be necessary in future research. Further analyses showed that only participants performing downward comparisons to 1st year students were more likely to consider themselves competent in spite of the epistemic distance that separated them from the source (whose superiority was rendered less salient), and to agree with the source and appropriate its contradictory information.

Results concerning the participants' manifest agreement with the epistemic authority revealed that students comparing themselves to 1st year students accepted the conclusions of the source to a greater degree if they acknowledged their epistemic dependence than when they did not. This difference, however, was not apparent when they compared themselves to 5th year students. We previously observed that participants who considered themselves more competent expressed their agreement with the source's conclusions to a greater degree (Mugny et al., 2002) which implies that in this paradigm of learning and development, feeling competent may involve a motivation to be influenced by a competent expert source. The same paradigm has also revealed that participants who previously received positive feedback were more likely to agree with a competent (rather than an incompetent) source. This dynamic was not, however, observed in subjects identified as mediocre (Tomei & Mugny, 2003).

Regarding the appropriation measure, the higher order interaction was significant. No effects were significant among participants comparing themselves to 5th year students. Therefore, it seems that upward comparison, which forces subjects to acknowledge their incompetence, did not induce any particular influence dynamics. This absence of influence may be explained by a feeling of helplessness (cf. Seligman, 1975) which may arise from an unfavourable comparison. Future studies should investigate this hypothesis since our analysis was not able to adequately explore it. On the contrary, we observed a significant interaction between the acknowledgement of informational dependence and the style of epistemic authority in participants who compared themselves to 1st year students. In line with our predictions, the authoritarian style (which, along with the democratic style, was clearly recognized as such) was more influential in participants who acknowledged dependence, whereas the democratic style was more influential in participants who did not acknowledge dependence. However, the most robust result revealed that participants who acknowledged epistemic dependence were more influenced by an authoritarian style than those who did not acknowledge dependence, and that the opposite dynamic (i.e., when the participants were confronted with a democratic style) approached significance.

In conclusion, it would seem that in the transmission of knowledge between professors and students, the influence of epistemic authority depends on the characteristics of the target (perception of competence and informational dependence), as well as the characteristics of the source (influence style). In fact, no one style can be considered to have a greater impact than the other. The democratic style can be more persuasive, but only when directed to individuals who recognize a low degree of informational dependence to the epistemic authority. The authoritarian style may also be influential but only when directed to individuals who acknowledge a high degree of dependence. Finally, these dynamics are only observed in a context that attenuates the threat induced by the epistemic gap between the self and the authority.

Notes

- ¹ Precautionary analyses demonstrated that the participants' gender had no effect on the results. For this reason, gender was not taken under consideration in the analyses presented here.

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Dans un plan 2x2x2, 94 participants roumains de 3ème année d'études en psychologie ont d'abord été distingués selon le degré (bas ou haut) de reconnaissance de leur dépendance épistémique à l'égard des enseignants. Ils ont ensuite eu à comparer la compétence des étudiants de leur année d'étude à celle des étudiants de 1ère année ou de 5ème année. Ils ont finalement été exposés à un message persuasif contre-attitudinal provenant d'une autorité épistémique faisant usage d'un style soit autoritaire, soit démocratique. La principale mesure dépendante concernait l'influence du message contre-attitudinal, i.e., son appropriation. Les résultats donnent lieu à une interaction des trois variables considérées. Aucune dynamique particulière n'apparaît chez les étudiants qui ont dû effectuer une comparaison par le haut, et qui se sont sentis très incompetents comparativement aux étudiants de 5ème année. Au contraire, chez les participants qui se sont comparés aux étudiants de 1ère, et qui partant ont moins ressenti leur incompetence relative par rapport à la source, l'interaction attendue entre style et dépendance apparaît: ceux qui reconnaissent une haute dépendance épistémique sont davantage influencés par le style autoritaire que ceux qui expriment une basse dépendance épistémique, alors que l'inverse tend à se produire face au style démocratique.

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Current theme of research:

Competence. Conflict. Imitation. Performance. Social comparison.

Most relevant publications in the field of Psychology of Education:

- Darnon, C., Harackiewicz, J., Butera, F., Mugny, G., & Quiazade, A. (2007). Performance-approach and performance-avoidance goals: When uncertainty makes a difference. *Personality and Social Psychology Bulletin*, 33(6), 813-827.
- Quiazade, A., & Croizet, J.C. (Guest Eds.). (2007). Social aspects of performance on aptitude tasks. Special issue, *Swiss Journal of Psychology*, 66(3).
- Quiazade, A., & Mugny, G. (2001). Social influence dynamics in aptitude tasks. *Social Psychology of Education*, 4, 311-334.
- Quiazade, A., Mugny, G.C., & Darnon, C. (2009). The coordination of problem solving strategies: When low competence sources exert more influence than high competence sources. *British Journal of Social Psychology*, 48, 159-182.
- Quiazade, A., Mugny, G., Falomir, J.M., & Chatard, A. (2006). De la psychologie sociale développementale à l'influence sociale dans les tâches d'aptitudes. In R.V. Joule & P. Huguet (Eds.), *Bilans et perspectives en psychologie sociale* (vol. 1, pp. 171-198). Grenoble: Presses Universitaires de Grenoble.

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Current theme of research:

Conflict elaboration. Social Influence. Social development of knowledge. Social representations.

Most relevant publications in the field of Psychology of Education:

- Butera, F., & Mugny, G. (Eds.). (2001). *Social influence in social reality: Promoting individual and social change*. Seattle: Hogrefe & Huber.
- Darnon, C., Butera, F., & Mugny, G. (2008). *Des conflits pour apprendre*. Grenoble: Presses Universitaires de Grenoble.
- Doise, W., & Mugny, G. (1984). *The social development of the intellect*. Oxford: Pergamon Press.
- Falomir, J.M., & Mugny, G. (2004). *Société contre fumeur: Une analyse psychosociale de l'influence des experts*. Grenoble : Presses Universitaires de Grenoble.
- Mugny, G., & Carugati, F. (1989). *Social representations of intelligence*. Cambridge: Cambridge University Press / Paris: Editions de la Maison des Sciences de l'Homme.

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Current theme of research:

Group-socialization processes. Social identity dynamics. Prejudice. Stereotyping.

Most relevant publications in the field of Psychology of Education:

- Baudelot, C., Leclercq, F., Chatard, A., Gobbille, B., & Satchkova, E. (2005). *Les effets de l'éducation*. Paris: La Documentation Française.
- Chatard, A., & Selimbegovic, L. (2007). The impact of higher education on egalitarian attitudes and values: Contextual and cultural determinants. *Social and Personality Psychology Compass*, 1, 541-556.
- Chatard, A., Guimond, S., & Martinot, D. (2005). La féminisation grammaticale des professions et l'auto-efficacité des élèves: Une remise en cause de l'universalisme masculin? [Occupational self-efficacy as a function of grammatical gender in French]. *L'Année Psychologique*, 105, 249-272.
- Chatard, A., Guimond, S., & Selimbegovic, L. (2007). "How good are you in math?" The effect of gender stereotypes on students' recollection of their school marks. *Journal of Experimental Social Psychology*, 43, 1017-1024.
- Chatard, A., Quiazade, A., & Mugny, G. (2007). Les effets de l'éducation sur les attitudes sociopolitiques des étudiants: Le cas de deux universités en Roumanie. *L'Année Psychologique*, 107, 225-237.