Protecting the Ingroup: Motivated Allocation of Cognitive Resources in the Presence of Threatening Ingroup Members

Alastair Coull,* Vincent Y. Yzerbyt, Emanuele Castano, Maria-Paola Paladino,** and Vincent Leemans
Catholic University of Louvain at Louvain-la-Neuve, Belgium
*also at the Belgian National Fund for Scientific Research
**also University of Trento, Italy

Research on the Black Sheep effect (Marques, Yzerbyt, & Leyens, 1988) suggests that motivational factors such as the level of identification with the ingroup influences the way people react against negative ingroup members. The present study tested the idea that people may invest a sizable amount of cognitive resources to protect their view of the ingroup when it is challenged by a negative target. We measured the identification of our participants, all students in psychology, with the larger group of psychologists and presented them with descriptions of four ingroup members, three positive and one negative. As expected, high identifiers gave a harsher judgment of the negative target than did low identifiers. In addition, participants' performance on a secondary task confirmed that high identifiers devoted more resources than low identifiers to process the information about the negative member as compared to a positive ingroup member. These results stress the relationship between motivation and cognitive resources in general, and the Black Sheep effect and stereotyping in particular.

keywords   black sheep effect, motivated stereotyping, social identity, stereotype change, subtyping

IN GENERAL, you may not feel very concerned about your national, ethnic or religious membership. This is partly linked to the nature of the surrounding people. If you are living in the midst of Christians, and you are a Christian yourself, you tend to forget about religion. In a less homogeneous social environment, however,

Author's note
Address correspondence to Vincent Yzerbyt, Catholic University of Louvain at Louvain-la-Neuve, Department of Psychology, Place du Cardinal Mercier 10, B-1348 Louvain-la-Neuve, Belgium
[email: vincent.yzerbyt@psp.ucl.ac.be]

your various group memberships become more apparent, and relevant for others who wish to explain your behavior, clothing, mentality, accent, etc. Imagine that you and one other Christian attend a conference with otherwise just Muslims. Imagine further that the other Christian behaves like a fool. Chances are that you will start worrying about what other people may think of Christians in general, and of you personally. In fact, except when a situational element potentially explains the behavior of your fellow group member (e.g. he just won the National Lottery), you wish that he were not a real, authentic Christian after all (De Cremer & Vanbeselaere, 1999). If a Muslim colleague asks you about your fellow Christian's awkward behavior, you may want to depict him in such a negative way that your interlocutor perceives him as an exception or as a Christian of doubtful authenticity. In fact, had a Muslim behaved in such a foolish way, you probably would not have bothered to describe him in a very negative way.

This phenomenon has been documented by social psychologists who called it the 'Black Sheep effect' (e.g. Marques, Robalo, & Rocha, 1992; Marques & Yzerbyt, 1988; Marques, Yzerbyt, & Leyens, 1988; for a review, see Marques, Abrams, Paez, & Hogg, 2000a). The present study relies on a dual-task paradigm (Macrae, Milne, & Bodenhausen, 1994) in order to examine some hitherto unexplored cognitive consequences of the confrontation with negative ingroup members. Specifically, we argue that high identifiers, but not low identifiers, should neglect concurrent cognitive tasks in an attempt to deal with the unpleasant information emanating from the deviant ingroup member and to maintain a positive image of the ingroup. As such, the demonstration of the combined impact of social identification and the encounter with a threatening ingroup member on the allocation of mental energy constitutes the first attempt to examine the Black Sheep effect by means of indicators of information processing. This kind of evidence should thus also stress the heuristic value of bringing together the social cognition and social identity traditions of research (Abrams & Hogg, 1999; Leyens, Yzerbyt, & Schadron, 1994).

In the classic Black Sheep paradigm, participants are confronted with a negative or positive ingroup or outgroup member. Their task is to evaluate the target person on a series of evaluative scales. Marques, Yzerbyt, and Leyens (1988, Experiment 1) presented their participants with a Belgian (ingroup) or North-African (outgroup) target, who was either likable, neutral or unlikable. Judgments of the targets were more extreme for ingroup than outgroup targets (specifically, the negative ingroup member was judged more negatively than the negative outgroup member and the positive ingroup member was judged more positively than the positive outgroup member).

A follow-up study (Marques et al., 1998, Experiment 2) showed that this Black Sheep effect occurs only on dimensions relevant to the definition of the ingroup. On other equally socially desirable or undesirable dimensions, but which did not contribute to the distinctiveness of ingroup and outgroup, subjects were equally extreme in their evaluations of ingroup and outgroup members. The authors also showed that this effect occurs independently of participants' familiarity with the situation (e.g. how familiar are you with soccer games) in which the targets are involved. In the same vein, Marques and Yzerbyt (1988) presented participants—law students—with either two good or two bad speeches, one allegedly given by a student in law, that is, an ingroup member, and the other by a student in French, that is, an outgroup member. In another study (Marques & Yzerbyt, 1988, Study 2), participants were presented with one good and one bad speech, both from either two ingroup or two outgroup targets. In both cases, results showed that participants' judgments were more polarized for ingroup than outgroup targets.

In sum, the evidence accumulated in the various experimental settings initially set up by Marques and Yzerbyt shows that participants express harsher judgments about the negative ingroup (as compared to outgroup) member, and the other way around for positive targets (see also Marques et al., 1992). Whereas the more favorable evaluation of the positive ingroup member is in line with Social Identity

Theory (SIT; Tajfel, 1981; Tajfel & Turner, 1979), the further derogation of the negative ingroup member as compared to a negative outgroup member comes across as an unexpected finding if one adopts a strict interpretation of SIT. Indeed, SIT theorists hold that people strive to maintain a positive image of their group in order to achieve a positive self-esteem (which nearly everyone appreciates). One notorious consequence of this fundamental need is the emergence of ingroup favoritism, that is, the tendency to give more positive judgments to the ingroup than to the outgroup. According to Marques et al.'s (1988) reasoning, the Black Sheep effect, i.e. the more negative evaluation of a bad ingroup member compared to an 'equally' bad outgroup member, may be understood as a sophisticated form of ingroup favoritism. In other words, participants want to *protect* their ingroup by derogating the negative ingroup member (the Black Sheep). Somehow, group members portray the Black Sheep in such a strongly negative way so that he/she cannot anymore be seen as a legitimate ingroup member. Presumably, the consequence of such *symbolic exclusion* is that the image of the rest of the ingroup remains largely positive. It is in this sense that the Black Sheep effect can be interpreted as some sort of ingroup protection process. If one adopts this interpretation, the Black Sheep pattern can easily be reconciled with the central tenets of SIT (Tajfel, 1981).

Several authors tried to directly trace the motivational foundation of the Black Sheep effect. Branscombe, Wann, Noel, and Coleman (1993) considered the identification level with the ingroup as a potential factor influencing the Black Sheep effect. Branscombe and colleagues' (1993) results showed that high identifiers polarized their judgment of the ingroup target (i.e. positive compared to negative), whereas low identifiers polarized the judgment of the outgroup target. In other words, a Black Sheep effect was found *only* for high identifiers. The moderating role of group identification has received additional support in a study by Marques et al. (1998, Experiment 4) where participants reported their identification on two occasions, once immediately after they were categorized

and once after they evaluated the normative and the deviant ingroup or outgroup members. Results indicated that ingroup identification increased intragroup differentiation which in turn reinforced ingroup identification.

These findings were extended in a recent series of experiments by Castano, Paladino, Coull, and Yzerbyt (1999). These authors reasoned that the level of identification should not only influence the evaluation of the negative ingroup member but also the perceived typicality of the target as a member of the group. As predicted, Castano et al. (1999) found that, compared to low identifiers, high identifiers perceived the deviant ingroup member to be more atypical. This pattern of data strongly suggests that high identifiers were keener than low identifiers to defend their ingroup. Findings such as these are important because they provide convergent evidence that the maintenance of the image of the ingroup, i.e., the ingroup stereotype, is related to the perception of atypicality of the negative ingroup member. Motivation, operationalized as group identification, is indeed related to ingroup protection strategies such as the Black Sheep effect. Expressed otherwise, the stronger the identification to the ingroup (and thus the motivation to defend it), the stronger the rejection of the deviant (and thus negative) ingroup member.

In the context of their 'subjective group dynamics' model, Marques and his colleagues (2000; Abrams, Marques, Bown, & Henson, 2000) further explored the conditions leading to the rejection of negative ingroup members. Marques and colleagues (2000) argue that the derogation of ingroup deviants is 'a prescriptive process that depends on norms that describe whether ingroup characteristics are good or bad' (p. 409). For instance, Marques, Abrams, Paez, and Taboada (1998, Experiment 2) tested the idea that, compared to accountability of the judgment to the outgroup, accountability of the judgments to the ingroup should increase the focus on the prescriptive aspect of the norm. In line with predictions, participants derogated the deviant ingroup member much more in the ingroup accountability than in the outgroup accountability

condition. In general, confrontations with anti-norm deviants, but not with pro-norm deviants (see Abrams et al., 2000), should thus come across as situations in which the targets' characteristics or behavior oppose valued ingroup standards and trigger responses designed to restore and reinforce subjective ingroup uniformity around valued ingroup standards. The 'subjective group dynamics model' holds that such responses will be manifested as aversive reactions to ingroup deviants and positive reactions toward normative outgroup members or outgroup members who otherwise support the legitimacy of prescriptive ingroup norms.

Whereas several studies examined the Black Sheep effect in the intergroup relations tradition (for recent reviews, see Brewer & Brown, 1998; Ellemers, Spears, & Doosje, 1999), we believe that a promising extension can be made by focusing on the cognitive processes that are triggered by the motivation to protect a positive ingroup image. The idea that people's stereotypes are linked to motivational factors is included in a number of contemporary social cognition theories (e.g. Fiske, Lin, & Neuberg, 1999; Fiske & Neuberg, 1990; Kunda, 1990; Leyens et al., 1994; Sinclair & Kunda, 1999). Also, a number of empirical efforts have accumulated that provide suggestive evidence for the specific link between group membership and cognitive work (Leyens & Yzerbyt, 1992; Schaller, 1991, 1992; Schaller & Maass, 1989; Yzerbyt, Leyens, & Bellour, 1995).

In one illustration of the impact of group categorization on inferential work, Schaller (1992, Experiment 1) asked male and female participants to evaluate the relation between gender and leadership on the basis of a list of 40 male and female employees of a particular company. The information about gender, status in the company, and quality of leadership was constructed in such a way that the relation between gender and leadership was spurious, i.e. it resulted from the unequal distribution of the men and women into status positions that were strongly correlated with leadership ability. As predicted by Schaller (1992), compared to the male participants, the female participants were less likely to infer a relation between gender and leadership ability. Interestingly, participants' self-reports of their reasoning strategies revealed that this response pattern was linked to the tendency of female participants to engage more than male participants in complex data integration and inference. All in all, studies such as these indicate the crucial role of motivation in the implementation of inferential processes and the consequent effects on group impressions and stereotypes (for another illustration, see Leyens & Yzerbyt, 1992; Yzerbyt et al., 1995).

In the present study, we wanted to investigate the influence of group identification on the amount of cognitive effort that people would devote in dealing with information about group members that varied in their level of positivity. Specifically, we wanted to see whether social identity concerns would shape the strategic allocation of cognitive resources and encourage high identifiers to invest more mental energy than low identifiers to handle evidence that possibly challenges their a priori views about the ingroup. Our detailed reasoning was the following. According to SIT, people strive to maintain a positive image of their ingroup (Tajfel, 1981; Tajfel & Turner, 1986). This desire is particularly pronounced for individuals who strongly identify with the ingroup. When high identifiers encounter a negative ingroup member, they may want to consider that such a member is not a true member of the group. However, recent theoretical perspectives on motivated reasoning (Leyens et al., 1994; Sanitioso, Kunda, & Fong, 1990) suggest that people do not feel at liberty to reach such a conclusion without some justification. Presumably, high identifiers search for grounds to expel the Black Sheep from the group were it only at a symbolic level. To the extent that people engage in a process of motivated reasoning that is likely to require sizable mental resources, they should be less able to allocate mental energy to deal with concurrent tasks. In our view, a careful evaluation of the amount of attentional resources spent on the analysis of a deviant target may prove to be an innovative contribution to the understanding of the Black Sheep effect. Indeed, we are lacking direct evidence for the implication of *motivationally triggered cognitive resources* aimed at protecting the image of the

ingroup. This is the specific ambition of the present study.

In order to explore the viability of the above hypothesis, we designed an experiment based on the dual-task paradigm (e.g. Macrae et al., 1994). Participants were all psychology students. Low and high identifiers to the group of psychologists had to read information about a series of ingroup targets, one of whom was obviously behaving negatively. At the same time, participants had to listen to irrelevant tape-recorded information about the city of Andorra. A subsequent multiple-choice questionnaire provided us with a measure of the resources spent on the secondary task during the presentation of the group members. Our hypotheses were that, replicating the Black Sheep effect, high identifiers would give more negative judgments of the negative target than low identifiers. In addition, compared to low identifiers, high identifiers were expected to spend more resources on the negative ingroup target. Specifically, we predicted that highly identified participants confronted with a negative ingroup member would have fewer intellectual resources left than low identifiers to pay attention to the tape-recorded information about the city of Andorra and would therefore fail on a larger number of items of the multiple-choice questionnaire. Finally, we expected that no such difference in performance would be observed for the remaining positive ingroup targets.

These straightforward predictions should be examined in light of two additional considerations. First, it is important to locate the proposed identity protection motive explanation with respect to another motivational explanation based on inconsistency management. As a matter of fact, an impressive body of literature suggests that people confronted with information that conflicts with their pre-existing beliefs devote substantial attentional resources to deal with the inconsistency (for a review, see Fiske & Taylor, 1991). Yzerbyt, Coull, & Rocher (1999) recently built upon this well-established finding in the person memory literature to argue that perceivers may in fact resist changing their stereotypic views of social categories only

to the extent that they possess sufficient cognitive resources to handle the inconsistent information. In a series of three studies, Yzerbyt and his colleagues (1999) found that, compared to participants who were distracted by an additional resource-taxing task, non-distracted participants changed their stereotypes less. Interestingly, non-distracted participants also perceived the deviant group member as being less typical of the target category as a whole than distracted participants (see also Coull & Yzerbyt, 2000; Moreno & Bodenhausen, 1999).

In our view, inconsistency management findings such as the ones reported by Yzerbyt et al. (1999) rest on a motivational interpretation of people's strategies stereotype maintenance: perceivers want to stick to their a priori views. The present identity protection motive explanation stresses the role of motivation even more. Indeed, we argue that people's decision to devote mental energy to deal with the deviant to arise as a function of the degree of identification with the group and not so much, or even not at all, as a function of the specific vision of the ingroup. To deal with this issue, we asked half of the participants to provide us with their stereotypic image of the group before the confrontation with the specific group members. In line with our identity protection motive explanation, we expected to show that the investment of cognitive resources would show even after controlling for the possible differences among high and low identifiers in the representation of the group.

A second consideration concerns the potential impact of positive ingroup members on the investment of cognitive resources. Indeed, one could argue that people may work hard to make positive ingroup members even more positive and that this tendency may be more pronounced among highly identified members. Although this reasoning makes intuitive sense, recent work on the Black Sheep effect by Abrams and colleagues (2000) indicates that pro-norm deviants do not trigger the same regulatory processes as their anti-norm deviants counterparts. In other words, the confrontation with a positive member does not seem to be a problematic experience for group members

and, as a consequence, does not increase the salience of the prescriptive norms. Extending these findings obtained on judgments in the present context, it is thus doubtful that the encounter with positive ingroup members would trigger inferential processes that are simply the mirror image of those taking place when a negative ingroup member is met. In sum, we propose that only a confrontation with a negative member of the group would bring about a dramatic reaction on the part of the highly identified group member.

Method

Participants
Sixty-three undergraduate psychology students from the Catholic University of Louvain at Louvain-la-Neuve volunteered to take part in an experiment on 'impression formation'.

Materials
All scales used for this study were 9-point Likert-type scales ranging from 1 (= not at all) to 9 (= completely). A 6-item identification scale (e.g. 'I feel I am a psychologist', 'I am glad I chose to study psychology', 'I would use the word psychologist to describe myself', etc.) measured participants' identification with the group of psychologists (Cronbach's alpha = .81). A 7-item ingroup stereotype scale (e.g. 'Psychologists are sensitive', 'Psychologists are friendly', 'Psychologists are empathic', 'Psychologists are capable of understanding other people's personality', etc.), measured the perception of psychologists on a series of positive characteristics (Cronbach's alpha = .73 and .78 before and after the manipulation, respectively).

All participants were presented with four descriptions of psychologists. Each description comprised a total of about 60 words and was presented on a separate page. Building upon earlier pretests, three of the targets were positive and one was negative. For instance, one of the positive descriptions read as follows:

'X is a 32 year old fully qualified psychotherapist with several years of experience in his domain. He is married with two children. He very carefully listens to his patients in order to fully understand their problems. He finds the right words to help patients to understand the issues, and expresses a lot of warmth and empathy when needed. His strong analytical and synthetic skills help him to elaborate solutions and treatments.'

In sharp contrast, the negative description read as follows:

'Y is a 33 year old. He is fully qualified as a psychotherapist and has several years of experience. He is married with three children. Y is an experienced therapist, but he tends to see his own problems in the patients' lives. He often interrupts patients because he is nervous, and fails to fully understand their point of view. He lacks the human warmth needed to gain the patients' trust. Finally, he often mixes up patients' records and asks people to explain their problems again and again.'

A scale comprising eight items (Cronbach's alpha = .94) aimed at measuring participants' impression of the negative target (e.g. 'Is this person a good psychologist?', 'Is this person sensitive?'). Finally, a 32-item multiple-choice questionnaire (e.g. 'What is the average altitude of Andorra?': 800 m; 1200 m; 1800 m) measured participants' memory for the information about Andorra played during the presentation of the four targets.

Procedure
Upon their arrival at the laboratory, participants were told that the study concerned people's ability to form an impression of a target on the basis of a summary of an interview (see Kunda & Oleson, 1995). They were asked to try to form a global image of several persons in order to be able to predict or interpret their future behavior. They were also told that, while forming an impression, they had to listen to an audio-taped recording and try to remember its content. Importantly, the instructions stressed the fact that priority should be given to the impression formation task.

Participants first completed the identification scale. Half of them were also asked to fill in the ingroup stereotype scale. All participants were then seated in front of a computer and asked to pay close attention to the information

displayed on the screen. When participants indicated that they were ready to read the evidence about the target, the experimenter simultaneously started the computer program and a tape recorder. The tape provided factual information about Andorra. The program and the tape had been carefully prepared so that exactly eight pieces of information were communicated during the time it took to show the information about one target person. For all participants, the same positive targets were placed in first and last position. The remaining positive target and the negative target were placed in second and third position. The order of presentation of these two targets was counterbalanced.

After the presentation of the targets and the end of the tape, participants were presented with the multiple-choice questionnaire about Andorra. All participants then evaluated the negative target and completed the ingroup stereotype questionnaire. Once these questionnaires were completed, the experimenter informed the participants that the experiment was over. Participants were thoroughly debriefed, thanked, and dismissed.

Results

Identification

In order to examine the relationships among the six identification items, the answers were submitted to a principal component analysis. As expected, this analysis revealed the presence of only one factor with an eigenvalue greater than one. Specifically, this unique factor accounted for a full 52 percent of the total variance. All items loaded very highly on the factor, all loadings > .63. On the basis of these findings, we averaged the answers to the six items into one identification score which served to divide participants in two groups. Four participants fell exactly on the median and were discarded from subsequent analyses. Although the global level of identification was fairly high, high identifiers ($M = 6.86$, $SD = 0.82$) were more strongly attached to the group of psychologists than low identifiers ($M = 5.22$, $SD = 1.29$; $t(56) = 5.87$, $p < .001$).

Group stereotype

As a means to examine the relationships among the seven items measuring the group stereotype, the answers to the final group stereotype questionnaire were submitted to a principal component analysis. This analysis revealed the presence of a fairly impressive first factor explaining 46 percent of the total variance. Because all items loaded strongly on the factor, all loadings > .48, and because all items were positive in tone, this factor clearly referred to the general evaluation of the group of psychologists. In order to secure a group stereotype score, we simply averaged the answers to the seven items.

Half of the participants were asked to communicate their stereotype of the group of psychologists both before and after the impression formation task. This manipulation was introduced in order to control for the potential impact of the initial evocation of the stereotype on the later reaction to the deviant ingroup member. We thus examined participants' view of psychologists by way of a 2 (Time of Judgment: before versus after the impression formation task) by 2 (Level of Identification: high versus low) mixed-model analysis of variance (ANOVA) with the former variable as a within-participant factor and the latter variable as a between-participants factor. This analysis only revealed the presence of a main effect of time of judgment. Participants expressed a more positive opinion after the presentation of the four targets ($M = 5.02$, $SD = 1.17$) than before ($M = 4.62$, $SD = .89$) ($F(1, 28) = 7.21$, $p < .02$). There was no main effect of level of identification nor an interaction between the time of judgment and the level of identification (both $Fs < 1$).

We also wanted to see whether participants expressed similar or different views about the group of psychologists at the end of the experiment as a function of their being asked or not to rate psychologists in general at the beginning of the experiment. We analyzed participants' view of psychologists by way of a 2 (Condition: presence versus absence of initial measure of the ingroup stereotype) by 2 (Level of Identification: high versus low) ANOVA with both variables as between-participants factors. No effect was significant (all $Fs < 1$).

Finally, we examined the impact of the presence versus absence of an initial measure of the ingroup stereotype on the judgment of the negative target and on the cognitive performance. No significant difference was found. Accordingly, this factor was discarded from the analyses presented below.

Judgment of the negative target

In order to secure a reliable evaluation of the negative target, we examine the relationships among the eight items that asked participants to convey their impression of the target. A principal component analysis revealed that all items loaded very strongly on the first factor, all loadings > .73, which accounted for a full 70 percent of the total variance. This pattern allowed us to compute a target evaluation score by averaging the answers on the eight items. We relied on this score to examine whether the level of identification had an impact on the evaluation of the negative target. In line with expectations, high identifiers judged the negative target more disapprovingly ($M = 2.70$, $SD = 1.40$) than low identifiers ($M = 3.48$, $SD = 1.70$) ($t(54) = 1.90$, $p < .04$, one-tailed). In other words, the stronger the identification with the ingroup, the harsher the judgment on the negative ingroup member.

Cognitive performance

Participants saw a total of four descriptions of psychologists. Because we wanted to avoid the interference of warm-up effects and attention decrement, we always placed the negative target in the second or in the third position. The critical comparison thus involved the performance

for the audio information about Andorra that coincided with the visual presentation of the second and third targets (see Macrae et al., 1994).

We submitted participants' scores on the multiple-choice questionnaire to a 2 (Identification: high identifiers versus low identifiers) by 2 (Order: negative target first versus positive target first) by 2 (Valence of Target: information heard during the presentation of the negative target versus information heard during the presentation of the positive target) mixed-model ANOVA with the valence of target as a within-participant factor. In line with predictions, the interaction between participants' level of identification and the valence of target was significant ($F(1, 54) = 5.63$, $p < .03$).

As can be seen in Table 1, high identifiers performed significantly worse on the secondary task when the target was negative rather than positive ($t(30) = 2.10$, $p < .05$). In contrast, the valence of the target had no impact on low identifiers ($t(26) = 1.26$, $p > .21$). Also, whereas high identifiers performed worse than low identifiers when the target was negative ($t(56) = 2.07$, $p < .05$), high and low identifiers did not perform differently when the target was positive ($t(56) = 1.17$, $p > .24$). No other effect was significant (all Fs < 1.01).

Discussion

Building upon work on the Black Sheep effect (Branscombe et al., 1993; Marques & Yzerbyt, 1988; Marques et al., 1988, 2000; Yzerbyt, Castano, Leyens, & Paladino, 2000), we hypothesized that highly identified group members

Table 1. Proportion of correct answers on secondary task as a function of identification and valence of the target

| | Identification | | | |
| | High | | Low | |
Target	Positive	Negative	Positive	Negative
Proportion	.47a	.38	.42	.46
SD	.18	.16	.18	.14
N	31	31	28	28

Note: The scores correpond to the proportion of answers, out of a maximum of 8, that participants answered correctly.

would be motivated to invest a sizable amount of cognitive resources when confronted with a deviant member of the group. As a result, their performance on a secondary task should drop compared to low identifiers confronted with the same negative target. The present study provides strong support for our predictions. First, high identifiers evaluated the negative target more harshly than low identifiers. This result is totally in line with earlier reports within the Black Sheep literature. Second, the performance on the subsequent multiple choice questionnaire, i.e. our measure of available cognitive resources, suggests that high identifiers devoted significantly more mental energy to process the negative target than their less identified colleagues. This pattern of findings confirms that the confrontation with a deviant ingroup member seems particularly challenging only for high identifiers.

As for the positive target, we conjectured that an encounter with such a person should not come so much as a surprise for the other members of the group. After all, all participants in the experiment were questioned about a group that they had decided to join, namely the group of psychologists. To the extent that a positive member of the ingroup is not being perceived as a problematic deviant, we did not expect a significant difference in performance to emerge between high and low identifiers. The present data support this intuition.

An alternative way to look at the performance data also seems instructive. Indeed, the pattern of means suggests that a negative ingroup member poses a more serious problem than a positive ingroup member at least when participants strongly identify with the group. In sharp contrast, low identifiers tend to be bothered more by a positive than by a negative member although the mean performances were not significantly different.

All participants were students in psychology. The Belgian university system is such that students in a particular major are totally separated from students in other majors. Moreover, only students graduating in psychology have a right to later become psychologists. As a result, being a student in a particular major is highly redundant with (hopefully) being a (future)

member of the professional category. This state of affairs may account for the finding that, although the level of identification was different in our two groups of participants, all participants displayed relatively high levels of identification with the group of psychologists. This may also explain why our participants were unlikely to have very different images of the larger group of psychologists at the outset of the study.

From the present perspective, the important consequence of such a similarity of view about the ingroup in both groups of participants is that one is entitled to rule out a contrast effect as a possible contributor of the observed pattern. Indeed, the negative target was not more distant from the stereotypic view of the group among high identifiers than among low identifiers. Expressed otherwise, a strictly cognitive inconsistency management account may seem less well suited than an identity protection motive explanation to account for the observed pattern of data.

Our study extends earlier Black Sheep findings by providing additional insight into the way people deal with deviant ingroup members. Because a negative ingroup member represents a threat to the positive distinctiveness of the group, it is hardly surprising that high identifiers would end up rejecting the deviant. Whereas contemporary work on subjective group dynamics has concentrated on judgmental evidence, the present contribution stresses the potential impact of deviance on the way group members process social information. In line with well-established findings in social cognition (Macrae et al., 1994), the lower performance on the multiple choice questionnaire indeed constitutes strong evidence that high identifiers devoted a substantial amount of attention to the deviants. But what do high identifiers do with their mental resources? The pattern of findings obtained in the present experiment suggests that cognitive resources are made available in an attempt *to protect ingroup stereotypes from change*. We would thus like to advocate that high identifiers try their best to turn the negative target into a subjective *outlier*. Empirical evidence both from the present experiment and from related work point to this possibility.

Looking at the present study first, the data reveal that the confrontation with the negative target had no impact whatsoever on the image of the group. As it happens, participants, both high and low identifiers, tended to see the group under a more positive light, a likely consequence of the encounter with a clear majority of positive instances of the group. It is hard to imagine that high identifiers spent their time integrating the information about the negative target without opposition if the resulting image of the group remained positive at the end of the process.

Related work by Kunda and Oleson (1995) on stereotype change would also suggest that high identifiers indeed tried to find ways to inoculate their beloved ingroup by construing the surprising deviant as an atypical member of the group. These authors found that stereotype-irrelevant information that accompanied the description of a deviant outgroup member was appraised in such a way as to become diagnostic of the deviance. The counterstereotypic target was thus made to be an exception to the rule on the basis of the (initially irrelevant) available information. That such a process requires mental energy has been demonstrated in a series of studies by Yzerbyt et al. (1999) in which participants were or were not distracted during the confrontation with a deviant outgroup member (or even several deviant outgroup members). Participants whose mental resources were not otherwise taxed perceived the target(s) as being much less typical representatives of the group. Only when cognitive resources were made available and when, as a consequence, the authenticity of the deviant as a typical outgroup member could be questioned, did participants stick to their initial stereotypes of the outgroup. Unexpected as it may be, thus, these authors found support for the idea that the availability of cognitive resources is often necessary for stereotype maintenance in the face of incongruent information (see also, Coull & Yzerbyt, 2000; Moreno & Bodenhausen, 1999). Initially proposed by Allport (1954), the process of fencing off unexpected group members is likely to be very common in the presence of deviants. Clearly, such a strategy is completely in line with the idea of motivated reasoning as proposed by

Kunda (1990) and Leyens et al. (1994). Motivation affects reasoning through reliance on a biased set of cognitive processes, that is, strategies for accessing, constructing, and evaluating beliefs (see also Leyens, Dardenne, Yzerbyt, Scaillet, & Snyder, 1999).

Several studies illustrate the potential of such goal directed reasoning. Ditto and Lopez (1992) showed that information in line with a preferred conclusion is examined less critically than discrepant information. Also, less information is required to reach the desirable than the undesirable conclusion. In a related vein, a study by Sanitioso, Kunda, and Fong (1991) revealed that people can selectively access their autobiographic memory in order to confirm that they possess a desired trait (introversion or extroversion). This research sits comfortably within the larger literature showing that motivation stands as an important factor in information processing. For instance, higher motivation has been shown to lead to a more detailed analysis of persuasive messages (Chaiken, 1987; Petty & Cacioppo, 1986) or to more correction of dispositional inferences by means of the situational information (Webster, 1993).

Not surprisingly then, motivation should also impact on stereotyping. It seems more than reasonable to claim that those persons who have stronger vested interests in certain stereotypes should be more eager to defend them against incongruent information (for a review, see Fiske, 1998). Although this claim is hardly disputed within the stereotype literature, empirical support is by and large not available (but see Moreno & Bodenhausen, 1999; Yzerbyt et al., 1999). The current study contributes to fill this gap in an innovative way by showing that resources may be spent differentially depending on people's motivation to defend the image of their *ingroup*.

Moreover, a focus on the role of motivated reasoning in group phenomena such as the Black Sheep effect also allows us to nuance more traditional views within the stereotyping literature. Indeed, a widespread assumption from the cognitive approach of stereotyping is that, as people's mental resources decrease, they rely more and more on a priori categorical

information (e.g. Bodenhausen & Lichten-stein, 1987; Gilbert & Hixon, 1991; for recent reviews, see Fiske, 1998; Macrae & Boden-hausen, 2000). Still, by conveying the idea that stereotypes are functional because they pre-serve otherwise useful cognitive resources in everyday life, the stereotyping literature may have given the impression of a rather *passive* social perceiver whose use of additional resources in impression formation simply depends on their availability.

In contrast, our data strongly suggest that people may invest an important amount of resources in the processing of information that threatens aspects of their identity or self-esteem when motivated to do so. Indeed, receiving information about a deviant ingroup member is one way of challenging the ingroup stereotype. In the present study, highly identified partici-pants spent more resources on negative targets than on positive ones. This suggests that these people engage in an active, goal-oriented, moti-vated handling of information relevant to their group stereotype. We believe that this finding extends current social cognition perspectives in that it provides hard evidence for the *active* side of stereotyping.

The present study may disappoint some opti-mists who believe that the curse of stereotyping could come to an end if people would only spend some additional cognitive resources on target information. Unfortunately, when a cher-ished ingroup stereotype is at stake, motivation can actually lead perceivers to make use of additional mental resources to turn deviants into a Black Sheep. This process allows group members to stick to what they want to believe. Although circumstances may well exist that lead to a change in one's stereotyped view of the ingroup, the present research suggests that such situations may not be so common after all. Clearly, social perceivers are no less skilled at maintaining their convictions about their ingroup than about outgroups.

Acknowledgments

References

Abrams, D., & Hogg, M. (1999). *Social identity and social cognition*. Oxford: Blackwell.

Abrams, D., Marques, J. M., Bown, N., & Henson, M. (2000). Pro-norm and anti-norm deviance within and between groups. *Journal of Personality and Social Psychology, 78*, 906–912.

Bodenhausen, G. V., & Lichtenstein, M. (1987). Social stereotypes and information-processing strategies: The impact of task complexity. *Journal of Personality and Social Psychology, 52*, 871–880.

Branscombe, N. R., Wann, D. L., Noel, J. G., & Coleman, J. (1993). In-group or out-group extremity: Importance of threatened social identity. *Personality and Social Psychology Bulletin, 19,* 381–388.

Brewer, M. B., & Brown, R. J. (1988). Intergroup relations. In D. T. Gilbert, S. T. Fiske & G. Lindsey (Eds.), *The handbook of social psychology* (4th ed., Vol. 2, pp. 554–594). Boston, MA: McGraw-Hill.

Castano, E., Paladino, M. P., Coull, A. I., & Yzerbyt, V. Y (1999). *The black-sheep effect: A strategy to protect the image of the ingroup*. Unpublished manuscript, Catholic University of Louvain at Louvain-la-Neuve.

Chaiken, S. (1987). The heuristic model of persuasion. In M. P. Zanna, J. M. Olson, & Herman (Eds.), *Social influence: The Ontario symposium* (Vol. 5, pp. 3–39). Hillsdale, NJ: Erlbaum.

De Cremer, D., & Vanbeselaer, N. (1999). I am deviant, because . . . : The impact of situational factors upon the black sheep effect. *Psychologica Belgica, 39*, 71–79.

Ditto, P. H., & Lopez, D. F. (1992). Motivated skepticism: Use of differential decision criteria for preferred and nonpreferred conclusions. *Journal of Personality and Social Psychology, 63*, 568–584.

Doosje, B., & Ellemers, N. (1997). Stereotyping under threat: The role of ingroup identification. In R. Spears, P. Oakes, N. Ellemers, & A. Haslam (Eds.), *The psychology of stereotyping and group life*. Oxford: Blackwell.

Ellemers, N., Spears, R., & Doosje, B. (1999). *Social identity: Context, commitment, content*. Oxford: Blackwell.

Fiske, S. T. (1998). Stereotyping, prejudice, and discrimination. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (4th ed.). New York: McGraw-Hill.

Fiske, S. T., Lin, M., & Neuberg, S. L. (1999). The continuum model: Ten years later. In S. Chaiken & Y. Trope (Eds.), *Dual-process theories in social psychology* (pp. 231–254). New York: Guilford Press.

Fiske, S. T., & Neuberg, S. L. (1990). A continuum of impression formation from category based to individuating processes: Influences of information and motivation on attention and interpretation. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 23, pp. 1–74). New York: Academic Press.

Gilbert, D. T., & Hixon, J. G. (1991). The trouble of thinking: Activation and application of stereotypic beliefs. *Journal of Experimental Social Psychology, 60*, 509–517.

Kunda, Z. (1990). The case for motivated reasoning. *Psychological Bulletin, 108*, 480–498.

Kunda, Z., & Oleson, K. C. (1995). Maintaining stereotypes in the face of disconfirmation: Constructing grounds for subtyping deviants. *Journal of Personality and Social Psychology, 68*, 565–579.

Leyens, J.-P., Dardenne, B., Yzerbyt, V., Scaillet, N., & Snyder, M. (1999). Confirmation and disconfirmation: Their social advantages. In W. Stroebe & M. Hewstone (Eds.), *European review of social psychology* (Vol. 10, pp. 199–230). Chichester: Wiley.

Leyens, J.-Ph., & Yzerbyt, V. Y. (1992). The ingroup overexclusion effect: The impact of valence and confirmation on information search. *European Journal of Social Psychology, 22*, 549–569.

Leyens, J.-Ph., Yzerbyt, V., & Schadron, G. (1994). *Stereotypes and social cognition*. London: Sage.

Macrae, C. N., & Bodenhausen, G. V. (2000). Social cognition: Thinking categorically about others. *Annual Review of Psychology, 51*, 93–120.

Macrae, C. N., Milne, A. B., & Bodenhausen, G. V. (1994). Stereotypes as energy-saving devices: A peek inside the cognitive toolbox. *Journal of Personality and Social Psychology, 66*, 37–47.

Marques, J. M, Abrams, D., Paez, D., & Hogg, M. (2000a). Social categorization, social identification, and rejection of deviant group members. In M. A. Hogg & R. S. Tindale (Eds.), *Blackwell handbook of social psychology: Group processes* (pp. 400–424). Oxford: Blackwell.

Marques, J. M, Abrams, D., Paez, D., & Taboada, C. (2000b). The role of categorization and in-group norms in judgments of groups and their members. *Journal of Personality and Social Psychology, 75*, 976–988.

Marques, J. M., Robalo, E. M., & Rocha, S. A. (1992). Ingroup bias and the 'black sheep' effect: Assessing the impact of social identification and perceived variability on group judgements. *European Journal of Social Psychology, 22*, 331–352.

Marques, J. M., & Yzerbyt, V. Y. (1988). The black sheep effect: Judgmental extremity towards ingroup members in inter- and intra-group situations. *European Journal of Social Psychology, 18*, 287–292.

Marques, J. M., Yzerbyt, V. Y., & Leyens, J.-Ph. (1988). The black-sheep effect: Extremity of judgments towards ingroup members as a function of ingroup identification. *European Journal of Social Psychology, 18*, 1–16.

Moreno, K. N, & Bodenhausen, G. V. (1999). Resisting stereotype change: The role of motivation and attentional capacity in defending social benefits. *Group Processes & Intergroup Relations, 2*, 5–16.

Petty, R. E., & Cacioppo, J. T. (1986). *Communication and persuasion: Central and peripheral routes to attitude change*. New York: Springer-Verlag.

Sanitioso, R., Kunda, Z., & Fong, G. T. (1990). Motivated recruitment of autobiographical memory. *Journal of Personality and Social Psychology, 59*, 229–241.

Schaller, M. (1991). Social categorization and the formation of group stereotypes: Further evidence for biased information processing in the perception of behavior–group correlations. *European Journal of Social Psychology, 21*, 25–35.

Schaller, M. (1992). Ingroup favoritism and statistical reasoning in social inference: Implications for formation and maintenance of group stereotypes. *Journal of Personality and Social Psychology, 63*, 61–74.

Schaller, M., & Maass, A. (1989). Illusory correlation and social categorization: Toward an integration of motivational and cognitive factors in stereotype formation. *Journal of Personality and Social Psychology, 56*, 709–721.

Sinclair, L., & Kunda, Z. (1999). Reactions to a Black professional: Motivated inhibition and activation of conflicting stereotypes. *Journal of Personality and Social Psychology, 77*, 885–904.

Tajfel, H. (1981). *Human groups and social categories*. Cambridge: Cambridge University Press.

Tajfel, H., & Turner, J. C. (1986). The social identity of intergroup behavior. In S. Worchel & W. G.

Austin (Eds.), *Psychology of intergroup relations* (2nd ed.), Chicago, IL: Brooks/Cole.

Webster, D. M. (1993). Motivated augmentation and reduction of the overattribution bias. *Journal of Personality and Social Psychology, 65,* 261–271.

Yzerbyt, V. Y., Castano, E., Leyens, J.-Ph., & Paladino, P. (2000). The primacy of the ingroup: The interplay of entitativity and identification. In W. Stroebe & M. Hewstone (Eds.), *European Review of Social Psychology* (Vol. 11, pp. 257–295). Chichester: Wiley.

Yzerbyt, V. Y., Coull, A. I., & Rocher, S. J. (1999). Fencing off the deviant: The role of cognitive resources in the maintenance of stereotypes. *Journal of Personality and Social Psychology, 77,* 449–462.

Yzerbyt, V. Y., Leyens, J.-Ph., & Bellour, F. (1995). The ingroup overexclusion effect: Identity concerns in decisions about group membership. *European Journal of Social Psychology, 25,* 1–16.

Biographical notes

ALASTAIR COULL took his PhD from the Catholic University of Louvain, Louvain-la-Neuve, Belgium. His research focuses on cognitive and motivational determinants of stereotype change and discrimination. He is currently a consultant in organizational psychology.

VINCENT Y. YZERBYT is professor of social psychology at the Catholic University of Louvain, Louvain-la-Neuve, Belgium. He served as associate editor of the *British Journal of Social Psychology* and, more recently, of the *Personality and Social Psychology Bulletin*. His research deals with social cognition and intergroup relations, especially issues of stereotype formation and change, subjective essentialism, and entitativity as they relate to social identity.

EMANUELE CASTANO took his PhD from the Catholic University of Louvain, Louvain-la-Neuve, Belgium and is currently lecturer in social psychology at the University of St. Andrews. His research interests include stereotyping and prejudice, the determinants and the consequences of group entitativity and social identification, nationalism, and the European identity.

MARIA-PAOLA PALADINO took her PhD from the University of Padua, Italy, and is currently research fellow at the University of Trento, Italy. Her work mainly concerns social identity and stereotyping and, more specifically, the issue of the attribution of emotions in intergroup settings.

VINCENT LEEMANS is currently an undergraduate student in social psychology at the Catholic University of Louvain, Louvain-la-Neuve, Belgium.