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The effect of group-identification on emotion recognition: The case of cats and basketball players ☆

Pascal Thibault, Patrick Bourgeois, Ursula Hess *

Department of Psychology, University of Quebec at Montreal, P.O. Box 8888, Station Centre-Ville, Montreal, Que., Canada H3C 3P8

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Abstract

It has been suggested that the in-group advantage in the recognition of emotional expressions by members of different cultural groups may be due to either encoder differences in expressive style or to decoder biases. The latter may be explained by the fact that individuals who identify with an ethnic or social group exert more effort when trying to decode the emotional expressions of group members. The present study investigates this notion. For this, two target groups were chosen such that in-group and out-group members shared the same cultural knowledge and linguistic background and all participants rated the same expressions to control for encoder differences. Both studies showed that individuals who identified with a social group were better at recognizing expressions by individuals perceived as members of that group.

Keywords: In-group membership; Emotional expressions; Cats; Basketball

People tend to be relatively better at decoding the emotional facial expressions by individuals from the same national, ethnic, or regional group (see Elfenbein & Ambady, 2002; for a meta-analysis, but see also Matsumoto, 2002; Matsumoto & Choi, 2005). Elfenbein and Ambady (2002) propose several mechanisms to account for this advantage. First, subtle differences in expressive style (cultural dialects) between members of different groups may account for all or some of the effect (Albas, McCluskey, & Albas, 1976; Allport & Vernon, 1933; Ambady, Koo, Lee, & Rosenthal, 1996; Scherer, Banse, & Wallbott, 1991; Elfenbein, Beaupré, Lévesque, & Hess, 2005).

Second, the in-group advantage may be due to group differences in decoding ability. Elfenbein and Ambady (2002) draw a parallel to the racial in-group advantage observed in the area of face recognition. Specifically, same-race faces are more accurately and efficiently identified than different-race faces (O'Toole, Peterson, & Deffenbacher, 1996) because they tend to be processed in a mode that handles individual differences more effectively (Anthony, Cooper, & Mullen, 1992). Alternatively, individuals might be more motivated to invest effort into decoding the expressions of members of groups they identify with. Unlike cultural dialects, these types of decoding effects should extend to social groups in general as they depend uniquely on group identification.

Specifically, the capacity to take the perspective of the other is one possible means of decoding emotional expressions. In this context, Hess and Kirouac (2000) proposed that when individuals do not know each other, they tend to resort to stereotype knowledge about social group members when decoding ambiguous facial expressions. Similarly, Karniol (1990) suggests that empathic accuracy in general is dependent on the knowledge base that is available to make specific predictions about another person's likely reactions. This process is likely to

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* Corresponding author. Fax: +1 514 987 7953.
E-mail address: Hess.Ursula@uqam.ca (U. Hess).

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be effortful and require a relatively higher level of motivation.

Thus, it is possible that people who identify with a group are simply more motivated to decode the emotional displays of other group members because these displays are more relevant to them. Research on gender differences in emotion recognition show that motivational factors may have a substantial impact on recognition accuracy (Hancock & Ickes, 1996). Individuals who are more motivated to recognize the emotional displays of others may in fact engage more easily in cognitively more demanding decoding strategies such as perspective taking to achieve their goal. Hence the degree of identification with a group should impact on an individual's accuracy in decoding emotional expressions by members of that group.

In sum, both encoding and decoding effects have been proposed to explain the in-group advantage in decoding. Elfenbein and colleagues (Elfenbein, Mandal, Ambady, Harizuka, & Kumar, 2002, 2004; Elfenbein & Ambady, 2002, 2003; Elfenbein et al., 2005) have proposed the notion of cultural dialects to describe the encoding effects. In contrast, the present study aims to further investigate decoding effects, specifically, the degree to which the identification with a group may impact on decoding accuracy. However, there are a number of caveats when trying to study decoding effects in isolation (see Matsumoto, 2002; Matsumoto & Choi, 2005 for an extensive discussion of these issues). Specifically, it is important to assure stimulus equivalence. One way to achieve stimulus equivalence is to study groups that do not differ physically. Also factors such as differing cultural stereotypes and language differences between cultural groups can confound results. For example, Matsumoto and Assar (1992) found that different emotion concepts may be differentially salient in different languages.

Two studies were designed to assess the impact of group-identification on emotion recognition in situations with stimulus equivalence, where linguistic accessibility of emotion terms, and cultural knowledge about prototypical group members are controlled for.

Study 1

For Study 1, decoders were required to decode somewhat ambiguous expressions, for which group knowledge should be especially useful (Karniol, 1990; Kirouac & Hess, 1999). Further, as mentioned above, we wanted to assure that in-group and out-group decoders were members of the same linguistic group and shared the same stereotypical cultural knowledge regarding in-group and out-group encoders. That is, in-group decoders differed from out-group decoders only by their identification with the in-group.

For this, we chose pets as encoders. Domestic animals such as cats and dogs show a variety of emotional behaviors such as aggression, disgust, fear, etc. Darwin (1872/1965), from an evolutionary point of view, pointed out the similarities between some animal expressions of emotions and human emotion expressions. In fact, humans tend to describe pet behavior in emotional terms and are able to accurately react to the motivational and emotional states of cats and dogs (see e.g., Fiedler, Light, & Costall, 1996; Turner, 1991).

Why would people identify with pets? Not so long ago most domestic animals had essentially practical roles in human households. Cats took care of mice in barns and other storage areas and dogs kept watch. Modern storage devices and alarm systems have taken over these duties and domestic animals in urban areas these days are mainly companions. This companionship has over the years intensified. A survey by the American Animal Hospital Association shows how close the relationship between human owners and domestic pets has become: 37% of pet owners carry a picture of their pets in their wallets, 31% take days off to stay home with sick pets, 28% talk to pets on the phone, and 27% celebrate pets' birthdays with a party (Brookman, 1999). Similarly, the increase in support groups for pet grief sufferers testifies to the increasingly emotional bond between pets and their owners. In fact, some people openly state that their cat or dog is a child or friend to them.

Yet, not everyone sees pets as "one of us." Thus, while some individuals identify closely with pets others do not. Both groups, however, share the same cultural knowledge (based on medial portrayals, literature, and common lore) about prototypical pets[1] as well as the same language, hence making this group ideal to study the issue at hand. Somewhat inspired by Darwin's classical description of the emotion display of an angry cat, cats were chosen as stimulus individuals for the present study. Still photographs were prepared and presented to human participants who were prescreened into groups high and low in identification with cats. The human participants' task was to describe the cats' behavior in their own words. They were not prompted to describe the emotion. The descriptions were content analyzed to assess whether the emotion display was correctly identified. We also assessed whether correct identification correlated with the use of more subtle and specific emotion terms.

Method

Material

Twelve cats participated in the stimulus generation phase. The cats where filmed in a variety of situations designed to elicit displays of fear, disgust, surprise, interest, and aggression. All tasks were structured so that the cat would walk across the room to a specific spot. Interest was induced by shaking a box of treats. A disturbing household noise (e.g., a vacuum cleaner) was used to induce fear behavior. To elicit disgust, a favorite food was mixed with grape syrup, a taste disliked by all of the cats in our sample. Anger was elicited

[1] A separate experiment compared the stereotypical knowledge that people who identified with cats and people who did not reported regarding the behavior of cats in the type of situations that were employed in this experiment. No difference emerged, suggesting that both groups do indeed share the same cultural knowledge.

using a procedure suggested by the cat owner. Finally, aggression was elicited using a suitable cat toy. The videos were viewed by a panel of four expert judges, who chose the still images that corresponded the best to the wanted behaviors. The stimuli were selected based on published descriptions of cat behaviors. Disgust and aggression stimuli were selected based on behaviors typically found in mammals. Specifically, sticking out of the tongue is part of the gusto-facial reflex found in mammals and was used to select disgust stimuli, and a crouching posture is a typical attack posture found in many mammals and was used to select the aggression stimuli. Morris (1986) describes a number of tail and ear signals specific to cats. Thus, a tail held erect but with tip tilted over denotes a cat that is 'very interested' and ears pointed forward are described as typical for a relaxed cat that is listening for interesting sounds. Hence, straight tail with tip tilted over and ears forward were used to select interest stimuli. Similarly the tucked in tail is described as signaling fear and was used to select fear items. Videos from 5 of the cats were rejected because they failed to execute all the required tasks. Stills were digitized and displayed as 4×6 in. photos. Fig. 1 shows four examples.

Participants

A total of 120 men and women from the Montreal area were recruited individually, most of whom were university students. Each participant first completed a short screening questionnaire to assess their level of identification with cats. Forty-four men and 44 women with a mean age of 27 years, half of whom scored high in identification with cats and half of whom scored low in identification with cats, were retained for the present study.

Procedures

The 35 stimuli (7 cats $\times$ 5 emotion displays) were presented in random order. Each stimulus was shown for 5 s, following which participants were asked to describe the cat's behavior in their own words. They were not prompted to describe emotions, but rather told to describe "in a few words" the cat's behavior. Given the stimulus population, cats, the whole body was shown to allow participants to use postural cues for their judgments.

Individual difference measures

Identification with cats was operationalized as the degree to which cats are included in the self using the Inclusion of the Other in the Self Scale (IOS; Aron, Aron, & Smollan, 1992). This scale consists of a series of 7 increasingly overlapping pairs of circles representing the participant and the target object (cats in our case). The validity of the scale for group identification has been established by Tropp and Wright (2001). This scale has been widely used to measure identification with both animate and inanimate targets (e.g., Schultz, Shriver, Tabanico, & Khazian, 2004; identification with nature and Vallerand et al., 2003; identification with a leisure activity). A score of one, two, or three was coded as low identification with cats whereas a score of five, six, or seven was coded as high identification with cats. Data from participants who chose the middle position of the scale were excluded from further analysis.

We also asked participants a number of questions regarding their experience with and liking of cats and pets in general. Experience with cats was measured by asking how many cats had been owned by the participant or members of their household and for how many years they had lived in households with cats. The two measures were multiplied to give the number of cat-years of experience. Liking was measured by choosing yes or no in response to the question "Do you love cats?" Finally, we asked about the frequency of interaction with cats. In addition, we asked for experience with and liking of pets in general.

Fig. 1. Examples of emotion displays by cats (A, interest; B, aggression; C, fear; and D, disgust).

Table 1
Accuracy scores as a function of inclusion level and sex of decoder

	Out-group		In-group	
	Mean	*SD*	Mean	*SD*
Men				
Fear	0.18	0.15	0.32	0.20
Interest	0.36	0.20	0.49	0.24
Aggression	0.27	0.15	0.23	0.16
Disgust	0.18	0.21	0.28	0.22
Anger	0.14	0.16	0.23	0.20
Women				
Fear	0.18	0.12	0.25	0.23
Interest	0.44	0.23	0.48	0.22
Aggression	0.21	0.16	0.19	0.13
Disgust	0.31	0.22	0.34	0.23
Anger	0.16	0.13	0.18	0.22
Total				
Fear	0.18	0.13	0.29	0.22
Interest	0.40	0.22	0.48	0.22
Aggression	0.24	0.15	0.21	0.15
Disgust	0.24	0.22	0.31	0.22
Anger	0.15	0.15	0.20	0.21

Dependant measures

To evaluate decoding accuracy, two judges coded the verbatim statements used by the participants to describe the cats' behavior. A code of 1 was assigned if the correct emotion category was chosen, if not a code of 0 was assigned. Using a sample of 350 responses, Cohen's kappas were >.90 for all emotion categories.

Results

Are people who identify with cats more accurate?

To answer this question, a multivariate analysis of variance was conducted on the accuracy scores for the five emotion conditions with identification level and sex of decoder as between subjects factors. Table 1 shows the means and standard deviations as a function of identification level and decoder sex.

A significant main effect of level of identification emerged, $F(5,80) = 2.30$, $p = .052$ as well as a marginally significant main effect of sex of participant, $F(5,80) = 2.21$, $p = .061$. Post hoc tests for the sex effect revealed that this effect was mainly driven by the fact that women were noticeably better decoders of disgust (33%) than were men (23%), $F(1,84) = 4.32$, $p = .041$.

Further, post hoc tests revealed that decoding accuracy across all groups and all emotions was significantly higher than 0.[2] Overall, participants who reported high levels of identification with cats were more accurate. Across all five emotion conditions, accuracy was 24% for low identified individuals versus 30% for high identified individuals, $t(86) = 2.40$, $p = .018$. An exception was found for aggression, for which high identified individuals were slightly less accurate, 21 versus 24% for low identified individuals; yet, this difference was not significant, $t(86) = .92$, $p = .363$. However, with regard to aggression it may be argued that in Western cultures the prevalent display rule is to not show aggression. Buck (1984) proposes the presence of decoding rules that match encoding rules. Hence to the degree that participants identify with cats, they may not be motivated to attribute aggressive behavior to this group, thus reducing their overall accuracy.

To assess whether level of experience with cats mediated the group identification effect, we used the number of years that participants had owned cats multiplied by the number of cats that had been owned as a measure of experience with cats and conducted an analysis of covariance with the number of cat-years of experience as a covariate. The number of cat-years of experience was not a significant covariate, $F(5,79) = .74$, $p = .598$. Inclusion of this variable only slightly reduced the effect size for identification from $d = .75$ to $d = .69$, suggesting that the simple level of experience does not mediate the group identification effect.

The degree to which participants indicated that they love cats and the frequency of contact with cats, were both marginally significant covariates, $F(5,79) = 1.94$, $p = .097$ and $F(5,81) = 2.04$, $p = .082$ respectively. However, not only did the effect of identification remain significant in both cases, $F(5,79) = 2.57$, $p = .033$, $F(5,79) = 2.55$, $p = .034$, but the effect size for identification increased from $d = .75$ to $d = .81$ and $d = .79$, respectively. This suggests that the observed group identification effect cannot be explained by the assumption that individuals who have better quality relations with cats, i.e., are fond of cats, or have more contact with cats, are better decoders. In fact, controlling for these factors enhances the impact of the motivational effect of group identification. Liking and experience with pets in general did not covary significantly with decoding accuracy.

Discussion

Overall recognition accuracy for the cats' expressions in Study 1 was low but not lower than frequently found for other free labeling tasks. For example, the accuracy rate corresponds well to the accuracy that U.S. participants achieved in a free labeling task for Indian dance portrayals of emotions, which ranged from 14 to 42% accurate (Hejmadi, Davidson, & Razin, 2000). That is, in general, participants managed to recognize cat emotion displays at acceptable levels. At the same time, a clear effect of group identification emerged. As predicted, individuals who identified strongly with cats were more accurate decoders than were individuals who did not identify with cats. Since level of experience with cats (as measured by the number of cat-years of cat ownership), love of cats, contact with cats and liking of and experience with pets in general, all did not

[2] As freely labeled responses were coded no formal criterion for chance accuracy can be assigned. However, even assuming that participants did not consider more than 10 of the several hundred emotion words in the French language, the overall level of accuracy was significantly above chance, $t(88) = 13.63$, $p < .001$.

mediate this effect, it is not simply the case that people who identify with cats also have had more occasions to learn about their behavior and are hence better decoders.[3]

In sum, Study 1 demonstrated that the group identification effect in emotion recognition persists when common explanations cannot be used to account for this effect. Specifically, in Study 1, out-group and in-group encoders (cats) were in fact the same individuals, thus controlling for differences in expressive style. Also, high identified and low identified decoders were members of the same linguistic group, eliminating effects due to the differential accessibility of different emotion concepts in different languages (Matsumoto & Assar, 1992), and they had the same cultural background, that is, they shared the same cultural stereotypes regarding the typical emotion displays of the prototypical cat. Further, we were able to exclude the explanation that higher decoding accuracy is a simple effect of experience or fondness. In fact, individuals who identified with cats and those who did not, only differed with regard to their identification with the target. The most likely explanation is that people who identify with cats are more motivated to attempt to take the cats' perspective. They are hence able to relate the behavior to potential emotion elicitors and to accurately deduce their emotional state.[4] This is best illustrated by a verbatim example: "The cat looks interested. Somebody presented him food, a treat or something else that makes the cat move toward it."

Study 2

Study 1 strongly supports the notion that motivational factors can influence decoding accuracy and hence can be one of the factors that can create an in-group advantage in emotion recognition. However, the encoder population—cats—while allowing for great control of potentially confounding factors is not entirely representative for everyday emotion recognition tasks. Hence Study 2 used a different approach with human encoders.

Specifically, we again presented the same individuals as either an in-group or an out-group member by assigning them different roles. Thus, differences in decoding accuracy should be solely caused by the assigned group membership of the expresser and not by any accidentally associated characteristics.

For this we based our study on the "common in-group identity model" (e.g. Gaertner, Mann, Murell, & Dovidio, 1989; Gaertner, Rust, Dovidio, Bachman, & Anastasio, 1994). In fact, in normal contact situations individuals can be members of both in- and out-groups. For example, they can be a member of an ethnic out-group but also a member of my sports team and hence an in-group member. That is, if individuals share a common in-group and attention is focused on this in-group then the out-group characteristics of the individual are overridden by the superior identification category that includes members of both the in-group and out-group, in a single social group representation.

For the present research, a common in-group was constructed through a common sport—basketball. Specifically, we asked basketball players and people who do not play basketball to rate a series of facial expressions. Half the encoders, who were either African or Quebecois, were labeled as basketball players and half as non-players. The labels were counterbalanced across stimuli and participants, eliminating the possibility that differences in decoding accuracy were caused by idiosyncratic features of individual encoders.

Basketball was chosen as the unifying category because it is a category in which both African and European descent expressers are viewed positively. However, because of the lack of women's basketball teams in the surrounding universities at the time the study was conducted, only men were chosen to be participants in this study.

Thus, African and Quebecois encoders were labeled as either basketball or non-basketball players to assess whether group identification, either with the racial or the social group, has an impact on decoding accuracy.

We predicted an encoder group membership × decoder group membership interaction. However, as mentioned above the manipulation was based on two groups: ethnic group and basketball player status. Based on the common in-group identity model" we assumed that individuals who are basketball players would identify with individuals described as basketball players regardless of whether the designated players were of African or European origin. The case for non-players is a bit more complicated. Whereas being a basketball player describes a coherent group with specific characteristics the group of individuals who do not play basketball is more diffuse. Hence two outcomes are plausible. Either non-players identify with non-players regardless of race. In this case we predict an encoder player status × decoder player status interaction. Alternatively, non-player status is not perceived as a group characteristic per se. In this case the non-player participants, who were all of European descent should identify with other individuals of European descent. In this case a three-way interaction involving player ethnic group should emerge.

Method

Participants

Sixty French Canadian men with a mean age of 23.5 years participated individually.

Facial stimuli

The facial stimuli consisted of expressions of happiness, sadness and anger by four Quebecois and four African

[3] In addition, a separate experiment showed that individuals who identify with cats are not better at decoding human facial expressions, excluding the alternative hypothesis that people who identify with cats are simply better decoders of emotional behavior in general. This finding thus strongly points to the specificity of the decoding advantage and hence the proposed motivational underpinnings of this ability.

[4] In fact, overall individuals who identify with cats tend to include more references to emotion eliciting events in their description of the cats' reactions.

men, taken from the MSFDE (Beaupré & Hess, 2005a). This series is composed of emotional facial expressions by young Quebecois, African and Asian adults. The MSFDE contains prototypical facial expressions that have been shown to be well recognized (Beaupré & Hess, 2005b) and which are highly controlled across groups, thus minimizing expressive differences between encoders.

Dependent measures[5]

Ratings. Following the presentation of each stimulus, subjects were asked to assess the emotions portrayed as well as their intensities using an emotion profile with the scales happiness, anger, fear, sadness, disgust, contempt, and surprise. The scales were represented by a 200 pixels long, bounded rectangle on the screen, the first 30 pixels of which were white and indicated a judgment of 0.[6] The remaining 170 pixels were graded in color from light gray to dark gray, with the darker end of the scale indicating greater intensity of the emotion. Each scale contained an emotion label and was anchored with the labels "not at all" and "very intensely."

Procedure

Each participant was greeted by the experimenter and seated in front of a computer. The participants were informed that their task would be to rate a series of facial expressions regarding the emotional expression displayed. A cover story was presented to the participants to justify the labeling of pictures as basketball players and non-basketball players. The cover story alluded to the fact that people who play team sports should be either very good at signaling emotions to communicate with their teammates or to the contrary should not clearly encode their emotions so as to not give away information to the opposing team. Participants who signed the consent form received detailed instructions regarding the task. The experimenter then answered any questions regarding the procedure and left the room.

Participants initiated the stimulus sequence by using a mouse to click a start button. For each trial, the participant first saw the poser's neutral expression and then the emotional facial expression followed by the ratings scales. Half of the posers (2 African actors and 2 Quebecois actors counterbalanced across participants) were labeled as basketball players whereas the other half was labeled as non-basketball players.

Decoding accuracy. We defined decoding accuracy as the observers' ability to correctly infer the posed emotion. An expression was considered as accurately identified when the emotion receiving the highest intensity rating on the emotion profile corresponded to the target emotion. An accurately identified expression received a score of 1 and a misidentified expression received a score of 0.

Manipulation check

Participants were chosen based on whether they were member of a basketball team or not. However, to make sure that non-basketball players were not hardcore basketball fans, and thus would highly identify themselves with basketball players, we assessed participants' level of identification with basketball, using a modified version of the inclusion of Others in the Self scale (Aron et al., 1992). Results showed that there was a clear difference in how both groups relate to basketball. Specifically, basketball players highly identified with basketball whereas non-basketball players did not identify themselves with this sport at all[7] (mean for players = 5.2, $SD = 1.54$ versus mean for non-players = 2.1, $SD = 1.18$, $t(57) = 8.66$, $p < .0001$).

Results

Accuracy

As mentioned above, a group identification effect for accuracy should result in either a two-way interaction between encoder and decoder player status, or a three-way interaction including also encoder ethnic group.

To assess this question, we averaged accuracy across the two negative emotions (anger and sadness). We decided to not include happiness because accuracy was above 85% suggesting a strong ceiling effect. However, inspection of the means showed Basketball players who decoded expressions by individuals presented as basketball players were more accurate ($m = .89$, $SD = .17$) than any other encoder–decoder combination ($m = .85$, $SD = .26$, $m = .86$, $SD = .21$, $m = .86$, $SD = .20$, respectively).

For the averaged accuracy for negative emotions, a three way interaction between encoder player status, decoder player status and encoder ethnic group emerged, $F(1, 58) = 3.81$, $p = .056$, which qualified a two way interaction between encoder player status and ethnic group, $F(1.58) = 17.49$, $p < .001$. Specifically, as predicted negative expressions by individuals described as basketball players were more accurately decoded by participants who were fellow basketball players, $m = .77$ (.25) and $m = .66$ (.29) for

[5] At the end of the experiment, participants were asked to fill in different questionnaires to assess individual differences. Specifically, the Aversive Racism Scale (Kleinpenning & Hagendoorn, 1993), the IACIAI (Matsumoto, Weissman, Preston, Brown, & Kupperbusch, 1997) and the PAQ (Spence & Helmreich, 1978) were used. Further, participants were asked to evaluate their level of contact with French-Canadians, Canadians of African descent and immigrants in general and their beliefs regarding the typical expressive behavior by these different ethnic groups. Since these data fall beyond the scope of this article, they will not be discussed in the present context.

[6] This scale format was chosen because pre-tests had shown that participants could not quickly and reliably use the mouse to make a judgment of exactly 0 on the continuous 200 pixel scale.

[7] Only one non-player participant identified himself to any marked degree with basketball. Analyses conducted after removing data from that participant were entirely consistent with analyses conducted on the complete data set. Thus, results concerning the complete data set will be used.

encoders of African and European descent respectively, than by participants who where non-players, $m = .74$ (.22) and $m = .63$ (.31). However, non-players showed a group identification effect only for the condition where the encoder was both of the same ethnic group (European descent) and of the same player status (non-player) than they. Thus, expressions by non-players of European descent were more accurately decoded by fellow non-players $m = .76$ (.26) versus $m = .63$ (.31) than by players, the reverse was found for expressions by African non-players ($m = .59$, $SD = .30$ versus $m = .68$, $SD = .28$).

Discussion

Findings for basketball players from Study 2 suggest that group identification influences decoding accuracy because effects of encoder player status can not be due to any objective differences in the expressions as the same expressions were used for both conditions. Hence only the decoder's perception of the target as a basketball player or a non-player influenced the ratings. The finding for non-players suggests that Ethnic group membership per se does not override a common in-group such as a shared sport that is central to ones life supporting previous research on the common ingroup effect (see above).

In contrast non-player status per se is not sufficient to override the identification with members of the same ethnic group. Hence only when both group memberships coincide does a group identification effect emerge.

General discussion

Both studies, using different methodologies, obtained convergent results that supported the notion that group identification impacts on emotion recognition. Why would we better understand emotions expressed by a member of our a group we identify with? The present research supports a motivational explanation. That is, participants engage in more effort to better decode expressions by individuals they identify with.

One of the strongest arguments that support our hypothesis is that in both studies, all participants were exposed to the same stimuli. In fact, the only variable that differs between the decoders was level of identification with the targets. It may be argued that in Study 2 basketball players had more accurate stereotype knowledge about basketball players than did non-players; yet this line of argument would presume that there are actual differences in the emotionality of basketball players. At the same time we found a group identification effect for non-players as well and as this group was not further identified it would be difficult to construe a specific stereotype that describes the emotionality of individuals of European descent who do not play basketball.

In sum, the present research suggests that motivation can have an important role in shaping our emotional communication. This finding has several practical implications. For example, the misunderstanding that sometimes occurs between members of different ethnic groups could be explained in part by to the lack of motivation that members of a given group display when trying to decode the emotions of members of the other group. We believe that further research about the impact of motivation in the area of in-group/out-group communication is essential to help reducing the potential for miscommunication between different groups.

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