CHAPTER 5

The social dimension as antecedent and effect of emotional mimicry

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Emotional mimicry by definition requires two (or more) people who show congruent emotional expressions. Emotional mimicry further implies that the emotional display of the mimicker is dependent on the emotional display of the mimicked person. Although mimicry research to date has not always been conclusive with respect to the nature of this congruency, we follow Hess and Fischer's (2013) definition, arguing that the mimicked emotional display should reflect a *sharing* of the original emotional display, rather than a reaction to the original display. Specifically, Hess and Fischer (2013) have proposed a *Mimicry in Social Context* model holding that emotional mimicry depends on an understanding of the social meaning of the situation in which mimicry occurs. From this view, mimicry has an inherently communicative function and can be considered a social regulator. This view implies that whether we label an emotional reaction as mimicry depends on the nature of the relationship between expresser and the observer.

In this chapter, we will focus on the role and nature of this relationship and address two central issues. The first relates to the type of relationships in which mimicry occurs (see also Stel, Chapter 2, and Winkielman et al., Chapter 8). Research on behavioural mimicry – that is, on the mimicry of non-verbal behaviours that are not emotion displays (such as foot tapping) – presumes that mimicry *always* occurs, independent of the nature of the relationship. In fact, Chartrand and Bargh (1999) subsume mimicry as one of many automatic behaviours that are presumed to be preconscious and not goal dependent, that is, they are obligatory. With regard to mimicry, this means "the effect should occur among strangers when no affiliation goal is present" (p. 900).

Is this also true for emotional mimicry? Can emotional mimicry occur between strangers or even between antagonists, and if so, under which circumstances would this occur? In this context, we will discuss the role of social goals in an emotional exchange. Second, we will review evidence

on the *effects* of emotional mimicry on social relationships. Does emotional mimicry improve social relations in all circumstances?

Affiliation and similarity

Can the nature of the relationship lead to an increase or decrease in emotional mimicry? Human relationships are characterized by two fundamental behavioural intentions: affiliation and dominance (Leary, 1957). Dominance relates to the position of an individual in a social hierarchy and the behaviours used to maintain that position, whereas affiliation relates to the sociability of the individual. Humans are most comfortable in interactions in which these are balanced between interaction partners, and mimicry is one behaviour of relevance in this context. In this vein, the *complementary contrast and assimilation theory* as formulated by Tiedens, Chow, and Unzueta (2007) can be used to outline the conditions under which mimicry can be expected. The theory is based on interpersonal theory (Kiesler, 1982; Leary, 1957; Wiggins, 1979). Interpersonal theory predicts that demonstrations of affiliative behaviour invite similar levels of affiliation on the part of the interaction partner. That is, affiliative behaviour is reciprocated. Mimicry is one important means of reciprocating affiliation, as reflected in the reference to "social glue" (Lakin, Jefferis, Cheng, & Chartrand, 2003). Yet, interpersonal contrast and assimilation theory also predicts that dominance-relevant behaviours invite contrasting behaviours. Thus, Tiedens and Fragale (2003) found that participants exposed to a dominant confederate decreased the dominance of their postural stance, whereas participants exposed to a submissive confederate increased their dominance. Hence, we would expect that in relationships that are characterized by liking and cooperation, mimicry should be the foremost response. By contrast, in relationships characterized by dislike or competition, no mimicry or even what has been termed counter-empathy (Lanzetta & Englis, 1989) – incongruent facial reactions such as smiles to the pain of others – should be found. Similar considerations apply to the emotions mimicked. Happiness, sadness, and to some degree fear in response to an external event all signal affiliation (Hess, Blairy, & Kleck, 2000; Knutson, 1996) and hence should invite mimicry. By contrast, expressions such as anger and disgust signal dominance (Hess et al., 2000; Knutson, 1996). They should invite a contrasting submissive or ingratiating response. Behavioural mimicry can serve such a function (Lakin & Chartrand, 2005), but showing anger in response to the anger of others is a provocative act that challenges the dominance display of the other. As such, we would expect the response to depend on the nature of the relationship. For example, an angry face may elicit a neutral or fear response from an individual in a subordinate position, but an angry

response from someone with an equal or higher power position. Neither of these would represent properly speaking mimicry. In what follows, we will consider mimicry in different types of relationships.

Most direct evidence for the role of observer–expresser relationship comes from studies in which friends and strangers have been compared. For example, in a study of mimicry of pride and disgust in a spontaneous interaction, Fischer, Becker, and Veenstra (2012) found that dyads composed of friends mimic each other's smiles more than do dyads of strangers. In this study, disgust was evoked by smelling a foul odour and pride by receiving a compliment. In dyads of friends, smiles were mimicked, both those that occurred in the disgust and those that occurred in the pride context. This was not the case for dyads of strangers, suggesting that the affiliative link between friends was required for smile mimicry. As can be expected from the above, mimicry of disgust was not found at all, whether among friends or strangers, as disgust – like anger – signals dominance and hence should not invite mimicry.

In fact, in lab-based research on facial mimicry, participants are typically not personally known to each other. However, observers may nonetheless have a basic favourable or unfavourable attitude towards an unknown expresser. This may be the case because they know something about the expresser. For example, studies by Bourgeois and Hess and McHugo and colleagues show that observers mimic politicians whose political orientation they share or of whom they approve of more, compared to those who hold a different political opinion or have a negative opinion of the politician (Bourgeois & Hess, 2008; McHugo, Lanzetta, & Bush, 1991; McHugo, Lanzetta, Sullivan, Masters, & Englis, 1985).

The relationship between expresser and observer can also be manipulated, for example by inducing a positive or negative evaluation or attitude towards this stranger. Thus, Stel and colleagues (2010) found more mimicry towards a liked person than a disliked one when manipulating the likeability of the target and measuring the amount of facial and postural mimicry in response to a woman in a video clip. A similar conclusion was reached by Likowski, Mühlberger, Seibt, Pauli, and Weyers (2008), who demonstrated that even when participants are presented with fictional characters shown as avatars, the mimicry of that character is affected by the likeability of the character based on narratives about them. The characters that were described as "good" were mimicked clearly, whereas those characters described as "bad" were not mimicked at all, irrespective of whether the emotional expression was positive (happy) or negative (sad).

This research on the effect of positive or negative attitudes on emotional mimicry can be extended to research on in-group and out-group members. Observers are more likely to mimic the emotional reactions of

in-group members than those of out-group members. This effect was shown for facial mimicry, for example, by Bourgeois and Hess (Study 2, 2008) and by Van der Schalk and colleagues (2011). In these studies, the same targets showing emotions were presented as either in-group members or out-group members. The results show that observers mimic the negative expressions of in-group members more than the same expressions of out-group members. Interestingly, however, both studies independently did not find such an in-group effect for smiling. In both studies, smiling was mimicked to the same extent, independently of group membership. We will come back to this exception for happiness later. In another study, which extents findings based on the mimicry of facial expressions, Weisbuch and Ambady (2008) found that the anxious voice of an in-group member was imitated more than the anxious voice of an out-group member.

These and other studies that manipulated group membership of the emotion expresser (e.g. Yabar, Johnston, Miles, & Peace, 2006) seem to suggest that attitudes influences mimicry. In addition to attitude, similarity with the target may also affect affiliative stance. For example, Stel et al. (2010) found that similarity with the target increased mimicry, but only when the target was not liked. Guéguen and Martin (2009) examined the role of similarity on behavioural mimicry. They operationalized similarity as having similar names (Study 1) or having a similar field of studies (Study 2). The participants first watched a video of a woman who touched and rubbed her face very often during an interview and then read the CV of the woman, which contained the similarity/dissimilarity information. They were subsequently instructed to watch the video more closely and the amount of mimicry with the target was measured. As expected, participants in the similarity condition mimicked more than in the dissimilarity condition, in both studies. This effect was mediated by how much the respondents liked the target. Specifically, respondents who perceived themselves as similar mimicked the target more, because they liked the target more.

In sum, based on studies of both behavioural and emotional mimicry, there seems to be a tendency for friends, in-group members, and liked persons to be mimicked more than strangers, out-group members, and disliked persons. This supports the notion that mimicry is a means to reciprocate affiliation. Yet, in many studies, evidence for mimicry is observed even when no information about the other is provided, and the other does not seem overly similar either. A good example would be the classic studies by Dimberg (1982) using the PFA (Pictures of Facial Affect; Ekman & Friesen, 1976). Yet, for human beings as a social species, affiliative intent can be assumed to be the default stance for situations in which the other is a potential in-group member and no negative

information is provided by the context. Thus, in cases where observers do not know the person, mimicry can be expected in most cases at least for affiliative emotions.

Yet, what can be expected in response to non-affiliative, dominant emotion expressions may depend on the nature of the relationship. Häfner and IJzermans (2011), for example, showed that individuals with a communal relationship smiled at the sight of a photo of their angry partner, but mimicked the angry expression of strangers by frowning. As reported earlier, other studies have found no mimicry of anger or disgust, whether in friends or strangers (Bourgeois & Hess, 2008, Study 2; Fischer et al., 2012) and in most contexts we do not expect displays involving non-affiliative emotions to invite mimicry. Showing anger in response to anger is generally seen as a provocative display. Smiling on the other hand may serve as a suitably submissive ingratiating display. For example, in a close relationship smiling should be predominantly an affiliative, appeasing, or accommodating response (Häfner & Ijzerman, 2011). Smiles can also signal dominance or superiority, however, and may hence be perceived as a provocation as well (Niedenthal, Mermillod, Maringer, & Hess, 2010). The question arises when strangers' anger expressions are mimicked, as was the case in the study by Häfner and Ijzerman (2011). This may not only depend on the nature of the relationship but also on the social interaction goals. One may mimic a stranger's anger when the anger expression is not perceived as directed to the self, and thus not as a signal to be acted upon (Bourgeois & Hess, 2008, Study 1). This may be often the case when viewing photos or videos, which create a passive stance, as there is no interaction goal in that situation. However, perceiving an angry face may also enhance a motive to signal dominance or superiority oneself, because it evokes a hostile motive. In this latter case, the expression would best be described as a reactive emotion display rather than mimicry (see also, Hess & Fischer, 2014).

Social goals and motives

The nature of an emotional exchange is not only dependent upon whether we have a positive or negative attitude towards a stranger, or whether we feel (dis)similar, but also on the goal of the emotional exchange and the interpretation and relevance of the other's motives (see also, Cesario, Plaks, & Higgins, 2006). For example, does a doctor mimic a patient's facial expressions when she tries to keep a distance? Or, does a poker player mimic his adversary's expressions? In most previous research on emotional mimicry, no information about the interactional or social goals of the target has been provided. This makes it impossible to know what

the expression means and what impact it has on our relationship with the other person or the tasks we are engaged in. Thus, when another person expresses an emotion, we not only process information on whether we like the person or not but also on how we interpret this expression with regard to our own and the other's social goals. This interpretation can be based on a variety of contextual factors, such as the situation that may have elicited the emotion, the type of person expressing the emotion, the meaning of the emotional exchange for one's relationship with that person or the tasks we are engaged in.

The idea that social goals in an emotional exchange are relevant for the presence or attenuation of mimicry has been addressed in different contexts. Thus, Lakin, Chartrand, and Arkin (2008) manipulated affiliation goals in order to study their effects on mimicry. For this, they induced social inclusion or exclusion using an online Cyberball game (Williams & Jarvis, 2006) and instructed participants to describe a photo to a confederate in the second part of the experiment. The mimicry of the foot movement of the confederate was the dependent measure and the researchers found that participants in the exclusion condition mimicked the foot movement more than in the inclusion condition. The authors assumed that the motive to affiliate was stronger in the exclusion condition and that mimicry is one means to achieve this.

Another way to manipulate social goals is to place people in cooperative versus competitive conditions. In a classic study, Lanzetta and Englis (1989) told people that they would either cooperate or compete with a co-actor. They then saw the co-actor on a screen react to the game, which involved electroshocks when loosing. Participants mimicked both smiles and discomfort grimaces shown by the cooperating co-actor but not by the competing one. In fact, they showed counter-empathic expression to the grimaces of the competing other. These findings were replicated by Weyers and colleagues (2009) who used unconscious competition priming (versus neutral priming) and also found both an absence of mimicry and evidence for counter-empathy in the competition condition. Thus, participants in a competitive relationship are usually in an antagonistic rather than affiliative frame of mind and do *not* have the social goal to affiliate with the other and are therefore unlikely to mimic the facial displays of their opponent.

Still another line of research has argued that the perception of a specific social category not only evokes associated behaviours (e.g. elderly and walking slowly) but also prepares the perceiver's motivational system for an interaction with the specific target (Cesario et al., 2006). Following this line of argument, not merely perceiving a member from a social category would prime automatic behaviour, but a personal interaction goal could evoke a response that does not reflect the stereotype. Indeed in Study 2,

Cesario and colleagues showed that participants who were primed with gay (versus straight) targets reacted with a more hostile response, even though this is not part of the stereotype of gay men. Applying this to emotional mimicry, we could argue that the interaction goal of perceivers influences whether and which emotion displays are mimicked.

Two recent studies from our own laboratory (Hess, Blaison, & Semin, 2013; Hess, Dandeneau, & Blaison, 2015) explicitly addressed the effect of social goals on emotional mimicry. One specific goal in an interaction may be to ignore the other person's emotions, for example, when one does not want to be influenced by another person's emotions or tries to stay distant. In those cases, one would not expect mimicry to occur, because as in the antagonistic situations above, the social goal is precisely not to affiliate. We used a classical affective priming paradigm to examine what happens when participants are instructed to disregard the first of two sequentially presented facial expressions, thus making only the second expression meaningful. Participants first saw either a positive (happy), negative (angry), or neutral facial expression for 100 ms, which served as the prime and which the participants were told to ignore. Then a second facial expression was shown and remained on the screen for several seconds. This expression served as the target and was either congruent or incongruent with the prime. Participants were asked to decide whether the target showed either a positive or negative expression and to react as quickly as possible. Emotional mimicry towards the prime and the target was assessed using facial electromyography (EMG) at the *Corrugator Supercilii* (frown), *Orbicularis Oculi* (wrinkles around the eyes), and the *Zygomaticus Major* (lifting the corners of the mouth in a smile) sites.

Reaction time measures were in line with the classical affective priming effect, that is, reaction times to congruent targets were significantly shorter than reaction times to incongruent targets. This finding suggests that despite the instruction to ignore these faces, the facial primes were seen and processed by the participants. However, the facial EMG results for the prime and target faces revealed a different processing pattern. First, a short period of activation of the *Corrugator Supercilii* occurred, which was independent of the valence of the prime and seems to represent an orienting response towards the stimulus. Following this, at 300–500 ms after the presentation of the target face, muscle activation congruent with the target face was observed, such that for angry targets an increase of *Corrugator Supercilii* activity with a concurrent decrease of *Orbicularis Oculi* and *Zygomaticus Major* was found. The opposite pattern was found for happy primes.

This pattern of findings shows that even though they were clearly perceived and processed – as the primes were presented supraliminally

and a classic affective priming effect had been obtained – the primes were not mimicked. By contrast, the targets were mimicked. These findings point to the importance of the observer's motivation and suggest that expressions that are to be disregarded are not perceived as meaningful to the current goals of the observer and are therefore not mimicked.

In a second study, we directly manipulated a social goal of understanding the other. Specifically, participants saw briefly (33 ms) presented expressions of sadness and anger and had to decide which emotion they saw. Some expressions were rewarded – that is, participants knew that they would receive a monetary reward if they were able to correctly decode these expressions, that is, demonstrate their understanding of the other's emotional expression. For half the participants, correctly decoded expressions on male faces were rewarded, for the other half correctly decoded expressions on female faces were rewarded. That is, participants were motivated to attend to the rewarded expressions and to understand their meaning so as to correctly decode them to receive the reward. The results showed that decoding accuracy for both emotions was higher in the reward condition. And as expected – at least for sadness – facial mimicry was also enhanced. That is, participants with the goal to understand the other better – so as to be more accurate in decoding and to receive the reward – showed more mimicry, and did indeed understand the expressions better. However, as noted above, increased mimicry was only found for sadness. As mentioned above, anger displays are non-affiliative and dominant and may not per se invite mimicry even when an external social goal was provided that can foster mimicry.

One limitation of most studies reported above is that sender and emotional message are confounded. That is, the social goal of the sender is directly signalled by the facial expression and hence mimicry can be seen as occurring in response to the sender but also in response to the expression. That is, what these studies can show is the importance of the interpretation of the social goal (which depends on the sender by emotion interaction) for mimicry to occur but they do not allow the reverse conclusion that the *sharing* of the emotion is a relevant dimension for mimicry.

Yet, the Mimicry in Social Context model by Hess and Fischer (2013) argues that the mimicked emotional display should reflect a *sharing* of the original emotional display rather than a reaction to the original display. Importantly, individuals are not understood to "blindly" mimic what they see, but rather they mimic what they understand about the others' feelings. This notion was first proposed by Bavelas (Bavelas, Black, Lemery, & Mullett, 1986) in an article appropriately titled "'I show how you feel': Motor mimicry as a communicative act." As such, all that would be required would be the knowledge about the emotional message – irrespective of its form. Evidence for this comes, for example, from cross-modal mimicry,

Figure 5.1 Example stick figure faces showing happiness, anger, sadness, and fear.

where individuals mimic facially emotions they hear (see Hawk and Fischer, Chapter 6).

When separating the content of the emotional message from the sender, it is possible to more directly investigate the emotional message while leaving the emotional display similar. Emotional messages may differ depending on who displays the emotion, eliciting different interaction goals. That is, we can vary the degree to which the emotional message has relevance for both sender and receiver and hence can be considered to represent a shared perspective. We conducted a study (Dietrich, Hühnel, Sangenstedt, & Hess, 2013) in which the message consisted of pictures that present minimal representations of human faces, namely stick figures (see Figure 5.1 for example).

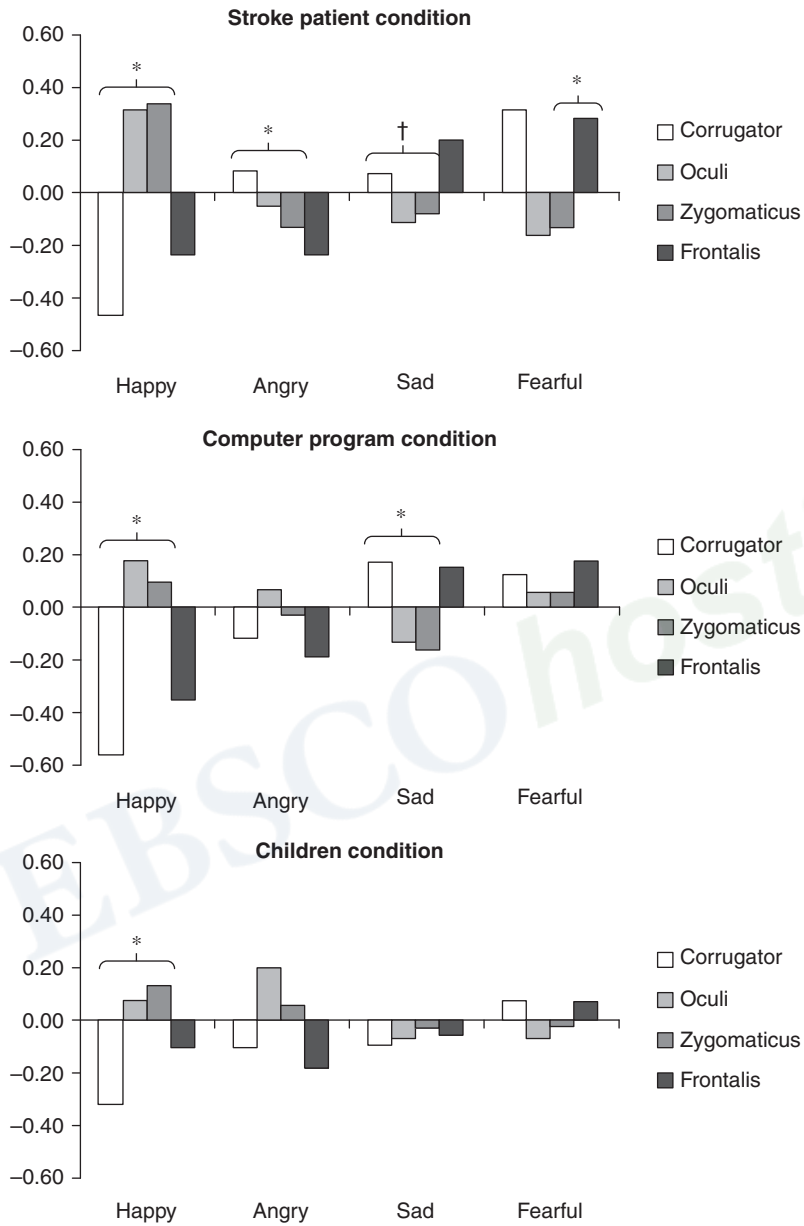
Stick figures contain none of the context information such as age or social group that are inherently part of real human faces and hence on their own do not provide relationship-relevant information, and thereby unconfound sender relevance and message relevance. In addition, they quite clearly are not the sender, but rather a message composed by the sender. Hence the social goals of the sender and the meaningfulness of the message for the receiver are manipulated by identifying different senders. This was done by presenting the stick figures in three different contexts. One-third of the participants were told that the figures were created by stroke patients as part of an emotional training in their physical rehabilitation programme. Another third were told that a computer program had created the expressions based on a selection of facial features. The last third were told that the figures were created by children who had drawn a close person in different emotional states.

We expected that in the stroke patient condition the emotional message should be meaningful and relevant and thereby invite mimicry as the purported creator should not be perceived as either dominant or nonaffiliative. Further, we would expect most observers to feel empathic towards the sender, as the sender is someone struggling to recover from a major health problem. Importantly, the emotional messages – the facial expressions shown by the stick figures – also should not signal dominance or affiliation intentions with regard to the observer as they are not

directed at the observer and are not meant to signal dominance intent. Hence in this case, we would expect mimicry of all emotions, including anger. By contrast, stick figures created by a computer program should elicit the lowest level of mimicry because a computer cannot per se create an emotionally meaningful message or wish to affiliate. Hence the most obvious outcome would be an absence of mimicry in this condition. However, it is possible that this notion may not fully reflect the reality of human computer interaction. A recent study showed that the cortical processing of smiling emoticons, as indexed by the N170, resembled the processing of faces, but only when shown in the right direction (Churches, Nicholls, Thiessen, Kohler, & Keage, 2014). Further, when engaging in interactions, people have a strong urge to predict their interaction partner's reaction to their own behaviour and to build mental models of the other person from which to predict the likely response of the other (Frith & Frith, 2006). However, humans create not only mental maps of other humans but also of their technological environment (Norman, 1987). As such, it is not impossible that especially young people who grew up interacting with computers mimic in this context if indeed reactions to emoticons generalize to reactions to stick figures. In this case, the mimicry might be most likely for happy and sad faces as happy and sad emoticons are very common, but not anger or fear emoticons. We expected the least motivation for mimicry for stick figures created by children. Naïve theories suggest that children's drawings do not represent clear messages as children frequently draw indiscriminately large numbers of images, making an individual image less meaningful.

One hundred and twenty female participants were recruited via an online participant database at Humboldt-Universität zu Berlin. Their mean age was 23.6 years, and they were either students or young professionals. The participants were randomly assigned to one of the three conditions and first told about the supposed creator of the stick figures. Following this, we presented the stick figures with expressions of happiness, anger, sadness, or fear in random order, while we measured facial EMG at *Corrugator Supercilii, Orbicularis Oculi, Zygomaticus Major* and *Frontalis, pars medialis* sites to assess whether the expressions were mimicked.

Overall, emotional mimicry was present and varied meaningfully between the three conditions. As can be seen in Figure 5.2, and as predicted, all emotion expressions were mimicked when the stroke patients were seen as the sender of the emotional message. This is in line with the notion that their emotional messages were seen as meaningful and affiliative. Also as expected, there was considerably less evidence for the mimicry of stick figures purportedly drawn by children. In this case, only happy expressions were mimicked. In fact, we had previously



Note. * $p = .05$. † $p = .10$

Figure 5.2 Emotional mimicry to stick figures across conditions and emotions. Emotional mimicry was defined by patterns of muscle

noted that mimicry of happy expressions often occurs even when all other expressions are not mimicked.

This may lie in the nature of the emotional message of happy expressions. Mimicry is a means of affiliating. But, as noted in evolutionary psychology, affiliation has a positive side by providing us with sources of support, but also a negative side in that support may be demanded from us and this demand may exceed what we are willing to provide (Schaller, Park, & Kenrick, 2012). In that sense, sadness mimicry in particular can be understood as having a high social cost (Bourgeois & Hess, 2008). Happiness, however, signals that all is well and by its very nature therefore assures that no "expense" will accrue. As such, it may well be that happiness mimicry has a high likelihood to occur if there is no specfic reason why it should not (as would be the case if the happiness is attributed to a competitor who may feel glee over our loss, as in Lanzatta and Englis, 1989, above).

The most fascinating result stems from the condition where the stimuli were supposedly computer-generated faces, where mimicry was found for happy and sad expressions. This is suggestive of the notion that our participants did indeed share the perspective of computer-generated faces. It would be interesting to repeat this study with a group of participants who are not used to computers. In this case, we would expect no mimicry. In sum, this recent evidence from our laboratory suggests that the social goals that are active in an emotional interaction have an impact on emotional mimicry.

Effects of emotional mimicry on affiliation

Whereas existing relationships have an influence on the extent in which we mimic, mimicry in turn also has effects on this relationship. Especially studies on behavioural mimicry have shown that mimicry leads to increased liking and thus fosters affiliation (e.g. Chartrand & Bargh, 1999; Lakin et al., 2003). For example, research on mimicry in a real-life courtship context (Guéguen, 2009) supports this notion. Men and women were videotaped during a speed dating session, in which women talked for a short time with men, in rotating order. Three female confederates took part in the speed

Caption for Figure 5.2 (cont.)

activition. Happiness mimicry was defined as in increase in Zygomaticus and Oculi activation compared to Corrugator activation. Anger and sadness mimicry were defined by the reverse pattern of these muscles. Fear mimicry was defined as an increase in Frontalis, compared to Zygomaticus activation.

dating session and were instructed to either mimic some of the men or not. They did this by repeating five expressions or statements. After the speed dating, the men received questionnaires asking which women they liked most. The men evaluated the dating interaction more positively when the woman mimicked them, and mimicry was further associated with a higher evaluation score of the relation and the sexual attractiveness of the woman.

Similar effects have been shown for emotional mimicry as well. Thus, participants in a study by Yabar and Hess (2007) were either mimicked by a confederate or not, while recounting a sad event from their life. Participants rated the mimicking confederate as more warm, tender, and approving and overall more positive than the non-mimicking confederate. This was irrespective of whether the mimicking confederate was an in- or an out-group member.

Yet, mimicry affects not only whether the mimickee likes the mimicker but conversely can also affect whether the mimicker likes the mimickee. This was shown by Stel and colleagues (2010). The study first manipulated liking for a person who was then shown on video or in an immersive virtual environment with instructions to the participant to either mimic or not mimic the person. Results showed that when participants intentionally mimicked a disliked person, liking for that person was not enhanced, whereas when participants mimicked a liked person, liking for that person increased.

Van der Schalk and colleagues (2011) report a similar finding showing that the spontaneous mimicry of negative emotions of in-group members was positively related to likeability ratings. They first presented participants short video clips from the Amsterdam Dynamic Facial Emotion Expression Set (ADFES), consisting of different emotional expressions (anger, fear, happiness) posed by models. Half of the models were White (which represented an in-group to the White participants) and the other half of the models were non-White (representing an out-group to the White participants). Participants rated the likeability of the targets when showing a neutral face before they saw the emotional video clips and again after they had seen the different emotional video clips. The results showed that liking of the models had increased, but only when the model was an in-group member. In addition, the increase in liking was mediated by the mimicry of negative facial expressions.

Obviously, these studies are limited in that there was no real interaction and the models that were presented were strangers and thus not very socially relevant for the participants taking part of the study. We can only speculate about the effects of emotional mimicry on the relationship between mimickee and mimicker, but given the fact that mimicry only occurs in the presence of some affiliative intent from both sides, we may predict that emotional mimicry will further enhance these affiliative tendencies and improve the relationship.

That mimicry may play a larger role in social interactions is suggested by a study by Mauersberger, Blaison, Kafetsios, Kessler, and Hess (2015). Mauersberger et al. assessed the degree to which participants mimicked expressions of happiness, anger, sadness and disgust using facial EMG in a standard laboratory task. The participants also provided a ten-day diary on their daily interactions where they described any interaction of ten minutes or longer in terms of how positive versus negative they felt themselves, how positive versus negative they perceived the other person to feel, and how positive versus negative they rated the interaction as such. A clear pattern emerged which suggests that those who tend to mimic sadness in the laboratory reported the most positive interaction experiences whereas disgust mimicry had a negative effect. No direct effect of happiness and anger mimicry emerged. For these emotions, more complex interactions with personality emerged. This study, which analysed effects across all types of interactions within all types of relationships, is highly suggestive for the importance of mimicry in social interactions. Importantly, it also shows that mimicry in reaction to affiliative and non-affiliative emotion displays has different social consequences.

Conclusion

We have shown that whether individuals mimic the emotions of others strongly depends on their relationship with the other person (strangers, friends, intimates, positive, negative, similar, dissimilar), with the nature of this relationship (neutral, competitive, cooperative, etc.), and with the relevance of the emotional message in relation to potential social interaction goals (motivated to ignore, empathize, etc.). These studies suggest that emotional mimicry can help us to socially regulate interactions. The research presented here provides a tantalizing glimpse for the role of emotional mimicry in social interactions. This role is more complex but also more exciting than the simple function of "social glue." Rather, mimicry seems able to regulate social distance and mediate social meaning and does so in different ways depending on which emotion is – or is not – mimicked in a given context. In this sense of mimicry, the metaphor of a social bungee cord seems more adequate, as mimicry flexibly keeps social relations within bounds.

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