

# **Easily Liked and Disliked?**

## **Formation and Change of Implicit and Explicit Attitudes towards One's Group**

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**Gutachter/in:**

1. Prof. Dr. Melanie C. Steffens
2. Dr. Vivian L. Vignoles

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# Summary

People's attitudes are at the center of social relations and to the heart of the dynamics of social processes. Attitudes are rarely idiosyncratic, but more often they are grounded in the groups we belong to. During the last two decades, research on intergroup attitudes has been enriched by indirect measures assessing spontaneous (implicit) attitudes that are distinguished from controlled (explicit) ones. Whereas explicit attitudes can form and change quickly, implicit attitudes are assumed to stem from long-term experiences and to be resistant to change (Greenwald & Banaji, 1995; Wilson, Lindsey, & Schooler, 2000). However, there is accumulating evidence that implicit attitudes in general and towards social groups in particular can form quickly based on descriptive information (Gregg, Seibt, & Banaji, 2006) or mere group membership (e.g., Otten & Moskowitz, 2000). Concerning the malleability of attitudes towards social groups, empirical evidence is diverse (see Blair, 2002 for the malleability of implicit attitudes; and Gregg et al., for their stability). Recent theorizing takes the diverse findings on the relative malleability of implicit and explicit attitudes into account and addresses their underlying processes and operating systems (e.g., Gawronski & Bodenhausen, 2006; Petty, Brinol, & DeMarree, 2007). It is still an ongoing debate why and when attitudes generally form and change (Gawronski & Sritharan, 2010). Specifically little attention has been paid to the influence of group membership on forming and changing intergroup attitudes.

In two sets of studies, the present research focuses on the formation and change of implicit and explicit attitudes towards groups one belongs to (ingroups). The first set of studies (Studies 1 and 2) investigated self-anchoring as an associative mechanism at the base of ingroup preferences. The second set of studies (Studies 3 to 5) examined the influence of group membership on forming and changing intergroup attitudes.

Merely belonging to a group leads to implicit and explicit preferences for this group (ingroup bias, Billig & Tajfel, 1973; Otten & Moskowitz, 2000). Ingroup bias has been assumed to stem from the motivation to increase self-esteem by positively distinguishing the ingroup from relevant outgroups (groups one does not belong to; social identity theory, Tajfel & Turner, 1979). Unlike social identity theory, researchers

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postulated that ingroups are perceived as being similar to the self. They are evaluated positively because the normally positive self is used as an anchor for defining ingroups (self-anchoring, Cadinu & Rothbart, 1996; Krueger & Clement, 1996; Otten, 2002). In line with Gawronski and colleagues (Gawronski, Bodenhausen, & Becker, 2007), I suggest that self-anchoring is an associative mechanism that does not need any similarity between the self and the group: When people link a group to their normally positive self (Baumeister, 1998; Greenwald & Farnham, 2000), positive self-evaluations spread over to the ingroup. The first set of studies tested this assumption. The findings demonstrate that neither explicit nor implicit ingroup preferences need similarities between the self and the group, but can solely rely on categorization (cf., Billig & Tajfel, 1973). Importantly, data show that the higher people's implicit self-esteem the higher were their implicit ingroup preferences. However this was only true for people who identified with the novel arbitrary ingroup. Implicit self-esteem also predicted explicit ingroup preferences given identification after mere categorization. These findings point to an associative process at the base of ingroup preferences (associative self-anchoring, cf. Gawronski et al., 2007).

The second set of studies took associative self-anchoring and recent research on the formation and change of implicit and explicit attitudes towards novel social groups as a starting point (Gregg et al., 2006). Study 3 investigated the effect of group membership in addition to descriptive valenced information on the formation of implicit and explicit attitudes towards social groups. Further, Study 3 examined their malleability when contrary descriptive information was available. In line with current theorizing (cf. Gawronski & Bodenhausen, 2006; Petty et al., 2007), I assumed that explicit attitudes would rely on the information that is considered to be valid. In contrast, implicit attitudes would reflect all activated associations; those formed by the initial descriptive information, the contrary descriptive information, and positive valence brought by group membership. Results demonstrate that implicit attitudes towards ingroups can form as quickly as explicit attitudes when people learn positive or negative descriptive information about the groups (for similar findings cf. Gregg et al., 2006). Concerning their malleability, the present results specify and extend the finding of Gregg and colleagues (2006) who concluded that implicit attitudes towards social groups resist attempts to undo them. Using a different design and a bigger sample, the present results show that counterattitudinal information can have an influence on implicit intergroup attitudes. Even though previously formed implicit attitudes towards social groups became activated additionally. Importantly, people added positive valence when implicitly evaluating ingroups even when groups were

clearly described negatively or positively. This positive ingroup default did not show up in explicit intergroup attitudes when clear valenced descriptive information about the groups was present. Given that implicit attitudes are a proxy for associations, the finding of implicit ingroup bias in the presence of strong valenced information confirms that ingroup bias is to some extent based on an associative process.

In order to derive a complete picture on the malleability of attitudes towards ingroups, I conducted Studies 4 and 5 on the malleability of implicit and explicit attitudes towards ingroups when no valenced descriptive information about the groups was present. I investigated the malleability of ingroup preferences per se when individuals changed group membership from the ingroup into the previous outgroup. On the one hand, Studies 1 to 3 demonstrated that implicit ingroup preferences can form quickly when people identify with a novel group. On the other hand, Study 3 showed that traces of previous attitudes can affect implicit intergroup attitudes even when explicit attitudes change perfectly. From these states of research, I suggest that implicit preferences for the new ingroup form readily when people identify with the new ingroup after having changed membership. Though, implicit preferences for a previous ingroup may affect subsequent intergroup attitudes when individuals changed into the previous outgroup. Study 4 used a similar manipulation like Study 3. Specifically, participants learned that the information they received about their group membership was actually wrong and that they are in fact members of the previous outgroup. Results revealed that participants readily identified with the new ingroup after being recategorized. They formed implicit and explicit preferences for the new ingroup. No traces of preferences for the previous ingroup remained.

Study 5 was conducted in order to test if experiences with an ingroup can strengthen preferences for it. Study 5 was similar to Study 4, except that participants worked individually on a group task before they had to change group membership. This intervention lowered identification and it lowered implicit and explicit ingroup preferences in recategorized participants compared to those who did not change groups. Thus, previous group preferences affected implicit and explicit intergroup attitudes after the change of membership. The decline in identification with the new ingroup of recategorized individuals indicated that participants stuck to some extent to the previous ingroup. It seems that participants linked the previous ingroup to their self-concept because of their experiences. They linked the new ingroup to their self-concept because of current categorization. Consequently, both groups profited from being related to the positive self. Results demonstrating that implicit self-evaluations predicted implicit and explicit preferences for the new ingroup supported this claim.

## *Summary*

In sum, implicit attitudes towards ingroups can form and change readily. Though, previously learned descriptive information about ingroups as well as previous group memberships can influence subsequent intergroup attitudes. I suggest that in order to gain a comprehensive picture on why and when intergroup attitudes change, theorizing on intergroup attitudes must consider the base of information by which the initial attitude is formed, the type of manipulation by which the attitude is changed, as well as the function of the attitude for the individual. Further, the present work suggests that past group histories influence current intergroup attitudes. In order to better understand current social relations, previous and current group memberships need to be taken into account.





# Zusammenfassung

Die Einstellungen von Menschen sind zentral für Ihre sozialen Beziehungen und essentiell für die Dynamik sozialer Prozesse. Einstellungen sind selten idiosynkratisch sondern gehen einher mit den sozialen Gruppen, denen wir angehören (Eigengruppen). In den letzten zwei Jahrzehnten wurde die Forschung zu Intergruppeneinstellungen durch indirekte Messmethoden von Einstellungen bereichert. Diese Messmethoden erfassen spontane (implizite) Einstellungen, die von kontrollierten (expliziten) Einstellungen unterschieden werden. Es wird angenommen, dass sich explizite Einstellungen rasch bilden und verändern können, wohingegen implizite Einstellungen auf lange Sicht erworben werden und beständig sind (Greenwald & Banaji, 1995; Wilson, Lindsey, & Schooler, 2000). Allerdings häufen sich Befunde, dass implizite Einstellungen im Allgemeinen und gegenüber sozialen Gruppen im Besonderen auch rasch durch Beschreibungen (Gregg, Seibt, & Banaji, 2006) sowie durch die reine Zugehörigkeit zu einer Gruppe (Otten & Moskowitz, 2000) gebildet werden können. Die Ergebnisse zur Veränderbarkeit von Einstellungen gegenüber sozialen Gruppen sind heterogen (siehe Blair, 2002 für die Veränderbarkeit impliziter Einstellungen und Gregg et al., 2006 für die Stabilität impliziter Einstellungen). Aktuelle Theorien zu Einstellungen berücksichtigen die heterogenen empirischen Befunde zur relativen Veränderung von impliziten und expliziten Einstellungen und beziehen sich auf die zugrunde liegenden Prozesse und Systeme (Gawronski & Bodenhausen, 2006; Petty, Brinol, & DeMarree, 2007). Dennoch gibt es eine anhaltende Debatte in der Einstellungsforschung, weshalb und wann sich Einstellungen im Allgemeinen bilden und verändern (Gawronski & Sritharan, 2010). Die Einstellungsforschung zu sozialen Gruppen hat bisher den Einfluss von Gruppenmitgliedschaften auf die Bildung und Veränderung von Intergruppeneinstellungen weitgehend vernachlässigt.

In der vorliegenden Arbeit werden zwei Studienfolgen zur Bildung und Veränderung von impliziten und expliziten Einstellungen gegenüber Eigengruppen präsentiert. Die erste Studienfolge (Studien 1 und 2) untersucht einen Mechanismus als Grundlage positiver Einstellungen zu Eigengruppenmitgliedern, der als self-anchoring bezeichnet wird und auf einer assoziativen Ebene ablaufen soll. Die zweite Studienfolge (Stu-

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dien 3 bis 5) erforscht den Einfluss von Gruppenmitgliedschaft auf die Bildung und Veränderung von Intergruppeneinstellungen.

Die reine Zugehörigkeit zu einer Gruppe führt im Allgemeinen dazu, dass diese Gruppe implizit und explizit positiver bewertet wird als andere Gruppen, denen die Person nicht zugehörig ist (Eigengruppenfavorisierung). Im Rahmen der Sozialen Identitätstheorie wird das Phänomen der Eigengruppenfavorisierung dadurch erklärt, dass Menschen durch ihr beständiges Streben nach positivem Selbstwert motiviert sind, ihre Eigengruppe von Fremdgruppen positiv abzugrenzen (Tajfel & Turner, 1979). Ein anderer Erklärungsansatz behauptet, dass Eigengruppen dem Selbst ähnlich wahrgenommen werden und dass das Selbst als ein Anker für die Eigengruppenbewertung dient (Self-Anchoring, Cadinu & Rothbart, 1996; Krueger & Clement, 1996; Otten, 2002). Da Menschen dazu neigen sich selbst positiv zu bewerten, profitieren Eigengruppen von der Nähe zum positiven Selbst. Im Einklang mit Gawronski und Kollegen (Gawronski, Bodenhausen, & Becker, 2007) postuliere ich, dass Self-Anchoring ein assoziativer Mechanismus ist, der keine Ähnlichkeit zwischen dem Selbst und der Gruppe voraussetzt: Sobald das normalerweise positive Selbst (Baumeister, 1998; Greenwald & Farnham, 2000) mit einer Gruppe verknüpft wird, wird positive Valenz vom Selbst auf die Eigengruppe übertragen. Die erste Studienfolge testete diese Annahme. Die Ergebnisse zeigen, dass weder explizite noch implizite Eigengruppenfavorisierung eine Ähnlichkeit zwischen dem persönlichen Selbst und den Mitgliedern einer Gruppe voraussetzt, sondern dass Kategorisierung per se ausreicht, damit die Eigengruppe positiver als eine Fremdgruppe bewertet wird (Billig & Tajfel, 1973). Insbesondere konnte gezeigt werden, dass je höher der persönliche implizite Selbstwert der Personen war desto stärker favorisierten sie ihre Eigengruppe. Allerdings galt das nur für Personen, die sich mit ihrer Eigengruppe identifizierten. Es konnte zudem gezeigt werden, dass wenn sich die Personen mit der Gruppe identifizierten, ihr persönlicher impliziter Selbstwert auch die explizite Eigengruppenbewertung vorhersagte. Diese Ergebnisse weisen auf einen assoziativen Prozess als Grundlage der Eigengruppenfavorisierung hin (Associative Self-Anchoring, Gawronski et al., 2007).

Die zweite Studienreihe baut auf den Befunden zum Associative Self-Anchoring und auf Studien zur Bildung und Veränderung von impliziten und expliziten Einstellungen gegenüber sozialen Gruppen auf (Gregg, et al., 2006). Studie 3 untersucht den Einfluss von Gruppenzugehörigkeit auf die Bildung von impliziten und expliziten Einstellungen gegenüber sozialen Gruppen auf der Grundlage von positiven oder negativen Informationen über die Gruppen. Zudem untersucht die Studie die Veränderbarkeit der Intergruppeneinstellungen, wenn einstellungskonträre Informationen über die

Gruppen präsentiert werden. In Anlehnung an aktuelle Theorien zur Bildung und Veränderung von Einstellungen (Gawronski & Bodenhausen, 2006; Petty et al., 2007) postuliere ich, dass zur Bildung der expliziten Einstellung lediglich Informationen genutzt werden, die als korrekt angenommen werden, wohingegen alle aktivierten Assoziationen Einfluss auf die implizite Einstellung haben. Folglich sollten sich neue Informationen zusätzlich zu früheren Informationen über die Gruppen sowie positive Valenz durch die eigene Gruppenzugehörigkeit in der impliziten Einstellung gegenüber der Gruppe niederschlagen. Die Ergebnisse zeigen, dass sich, auf der Grundlage von positiven oder negativen Informationen über die Gruppen, implizite Einstellungen gegenüber Eigengruppen ebenso schnell bilden können wie explizite Einstellungen (für vergleichbare Befunde siehe Gregg, et al., 2006). In Bezug auf die Veränderbarkeit impliziter Einstellungen erweitern die vorliegenden Befunde die Schlussfolgerung von Gregg et al. (2006), dass implizite Einstellungen auch in Gegenwart konträrer Informationen stabil bleiben würden. Unter Verwendung eines anderen Studiendesigns und einer größeren Stichprobe zeigen die in dieser Arbeit dargestellten Ergebnisse, dass einstellungskonträre Informationen nicht nur explizite, sondern auch implizite Einstellungen verändern können. Obwohl selbst dann, wenn neue konträre Informationen vorhanden sind, die ursprüngliche implizite Einstellung gegenüber der Eigengruppe aktiviert wird, wird die implizite Einstellung zusätzlich von der neuen Information beeinflusst. Ferner werden Eigengruppen implizit konsistent etwas positiver bewertet als Gruppen, denen die Person nicht zugehörig ist. Dies passiert sogar dann, wenn eindeutig negative oder positive Informationen über die Gruppen vorhanden sind. In Gegenwart von positiven oder negativen Informationen über die Gruppen zeigte sich diese positive Eigengruppenverzerrung allerdings ausschließlich in der impliziten Intergruppeneinstellung, jedoch nicht in der expliziten Einstellung. Die explizite Einstellung spiegelt lediglich die aktuelle Information über die Gruppe wieder. Unter der Annahme, dass implizite Einstellungen Assoziationen widerspiegeln, bestätigt dieser Befund, dass Eigengruppenfavorisierung tatsächlich zu einem gewissen Ausmaß auf einem assoziativen Mechanismus beruht.

Um ein vollständiges Bild der Veränderung von Eigengruppeneinstellungen zu erhalten, wurden die Studien 4 und 5 durchgeführt, in denen lediglich die Information über die Gruppenzugehörigkeit ohne weitere positive oder negative Informationen über die Gruppen dargeboten wurde. Um die Veränderbarkeit der daraus entstehenden Eigengruppenfavorisierung zu untersuchen, mussten die Personen von der einen in die andere Gruppe wechseln. Einerseits zeigen die Studien 1 bis 3, dass sich implizite Präferenzen für die eigene Gruppe rasch bilden, sobald sich die Personen mit der

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Gruppe identifizierten. Andererseits zeigen die Ergebnisse von Studie 3, dass Spuren von einer früheren Einstellung bestehen bleiben können. Diese spiegeln sich in der impliziten Einstellung wieder, selbst wenn sich die explizite Einstellung entsprechend der neuen Information über die Gruppen ändert. Auf der Grundlage dieser Befunde habe ich angenommen, dass sich eine implizite positive Eigengruppeneinstellung schnell bildet, sobald sich die Personen mit der Gruppe identifizieren. Allerdings könnte sich die frühere Gruppenpräferenz auf die folgende implizite Intergruppeneinstellung auswirken.

Studie 4 verwendete eine ähnliche Manipulation wie Studie 3. Insbesondere erhielt die Hälfte der Personen in Studie 4 die Information, dass versehentlich die Zuteilung zur Gruppe falsch war und dass die Person eigentlich der anderen Gruppe, der Fremdgruppe, zugehörig ist. Die Ergebnisse zeigen, dass sich die Personen sofort mit ihrer neuen Gruppe identifizierten. Ausserdem zeigten sie gegenüber der neuen Eigengruppe implizit und explizit Präferenzen, und zwar unabhängig davon, ob sie zuvor die Gruppe wechselten oder nicht.

Studie 5 wurde durchgeführt um zu untersuchen, ob eine geteilte Erfahrung mit einer Eigengruppe die Eigengruppenpräferenz verstärkt. Der Ablauf der Studie entsprach Studie 4, außer dass die Personen individuell eine Gruppenaufgabe lösten bevor die Hälfte der Personen die Gruppe wechseln musste. Diese Intervention führte dazu, dass sich die Personen, die die Gruppe wechselten, weniger mit ihrer neuen Gruppe identifizierten. Weiterhin zeigten sie geringere implizite und explizite Präferenzen der neuen Gruppe gegenüber im Vergleich zu den Personen, die nicht ihre Gruppe wechselten. Die Abnahme der Identifikation mit der neuen Gruppe nach dem Wechsel der Zugehörigkeit indiziert, dass die Personen nach dem Gruppenwechsel mit ihrer früheren Eigengruppe verbunden blieben. Es scheint, dass die Personen aufgrund ihrer gemeinsamen Erfahrung mit der früheren Gruppe, diese Gruppe mit ihrem Selbstkonzept verknüpft haben. Wegen ihrer neuen Gruppenmitgliedschaft war zudem die neue Gruppe mit dem positiven Selbst verknüpft. Demzufolge wurde weder die eine Gruppe noch die andere Gruppe stärker positiv bewertet. Zusätzliche Befunde, dass der implizite Selbstwert die implizite und explizite Bewertung der Gruppen vorhersagt, bestärken diese Argumentation.

Zusammenfassend zeigen die Studien, dass sich Einstellungen gegenüber Eigengruppen rasch bilden und verändern können. Jedoch können Informationen, die wir über unsere Eigengruppen erhalten haben, ebenso wie vergangene Gruppenmitgliedschaften unsere späteren Intergruppeneinstellungen beeinflussen. Um zu verstehen wann und weshalb sich Einstellungen ändern, schlage ich vor, dass die Art der Information, durch

die die ursprüngliche Einstellung entstanden ist, die Art der Manipulation, durch die die Einstellung beeinflusst wird, sowie die Funktion der Einstellung für das Individuum berücksichtigt werden muss. Darüber hinaus weisen die hier präsentierten Befunde darauf hin, dass ursprüngliche Einstellungen sowie frühere Gruppenzugehörigkeiten unsere aktuellen Intergruppeneinstellungen prägen können.







# 1 Introduction

Social change is omnipresent. Changes in business world, political integration, an increase in cultural diversity, and high unemployment rates lead to social mobility of individuals and groups. It is not only an objective process including structural and political decisions, but it also involves people's feelings and thoughts. People's attitudes are at the center of social relations and to the heart of the dynamics of social change. Attitudes are rarely idiosyncratic, but more often they are grounded in the groups we belong to and they serve to define who we are. The structural changes and the resulting high social pressure provide cause for attitudes to be in a massive transformation process. In such a changing world in which group boundaries become permeable it is important to understand when and how people form and change attitudes towards others who are members of the same or different group.

Individual's attitudes towards social groups have a self-defining function. On the one hand, people share attitudes with the groups they belong. On the other hand, it is ubiquitous that people usually evaluate groups they belong to more positively than groups they do not belong to. Thus, group membership per se affects intergroup attitudes and provides the base for prejudice (Tajfel, Billig, Bundy, & Flament, 1971). In addition to the self-defining function of attitudes, attitudes also guide behavior. Hence, negative attitudes towards social groups can result in discrimination. However, the relationship between self-reported attitudes and behavior is at most moderate (Kraus, 1995) hence, there is strong reason to deem that apart from self-reported attitudes, other processes may influence behavior. Greenwald and Banaji (1995) introduced these processes as 'implicit social cognition' and initiated a booming research field that revolutionized the attitude concept and its theorizing.

Current theorizing and research distinguishes controlled, explicit attitudes and spontaneous, implicit attitudes. Whereas explicit attitudes are assessed with direct, self-report measures, implicit attitudes are mostly inferred from reaction time tasks that do not need directly asking people's judgement (e.g., Greenwald, McGhee, & Schwartz, 1998; Fazio, Jackson, Dunton, & Williams, 1995; Payne, Cheng, Govorun, & Stewart, 2005). Beside their theoretical value indirect measures of attitudes

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turned out to be very valuable in domains in which social norms and self-control influences individual's self-reported attitudes, such as intergroup attitudes. Given the high standards of egalitarian norms and values in western societies, indirect measures revealed that people despite of possessing egalitarian explicit attitudes, often show implicit preferences for some groups over others. Hence, indirect measures on intergroup attitudes outpace self-report measures in predicting behavior towards members of social groups (Greenwald, Poehlman, Uhlmann, & Banaji, 2009). Thus, in addition to explicit attitudes, implicit attitudes are useful for understanding intergroup behavior and discrimination.

The recent upswing of research implementing indirect measures on attitudes highlighted new aspects on the formation and change of attitudes. Implicit attitudes assessed with indirect measures are mostly assumed to have their roots in long-term socialization experiences (e.g., Greenwald & Banaji, 1995) that are stored in memory and that are automatically retrieved when facing the attitude object (Chaiken, 1980; Fazio, 1995; Petty & Cacioppo, 1986). In contrast, self-reported attitudes are often assumed to capture more recently acquired explicit attitudes that coexist with previously acquired implicit ones. Consequently, it is a common assumption that implicit attitudes form slowly and are enduring whereas explicit attitudes can form and change quickly (e.g., Petty, Tormala, Briñol, & Jarvis, 2006; Wilson, Lindsey, & Schooler, 2000). However, the empirical evidence on the malleability of implicit attitudes in general and towards social groups in particular is diverse. Some research indicates that implicit attitudes towards social groups can be very flexible whereas other studies indicate that implicit intergroup attitudes are stable and enduring even when explicit attitudes have changed (Blair, 2002; Gregg, Seibt, & Banaji, 2006). Taking the diverse findings on the relative malleability of implicit and explicit attitudes into account, recent models address their underlying processes and operating systems in order to explain the heterogeneous findings (Cunningham, Zelazo, Packer, & Van Bavel, 2007; Gawronski & Bodenhausen, 2006; Petty, Briñol, & DeMarree, 2007; Rydell & McConnell, 2006; Smith & DeCoster, 2000; Strack & Deutsch, 2004). It is still an ongoing debate why and when attitudes generally form and change (Gawronski & Sritharan, 2010). Only few studies are available that systematically investigated the formation and change of attitudes towards social groups (Gregg et al., 2006). Even though, group membership can essentially influence intergroup attitudes, social psychological research is silent on how group membership affects the formation and change of implicit intergroup attitudes.

The present dissertation project is concerned with the formation and change of

implicit and explicit attitudes towards groups one belongs to. It consists of two research lines. While the first set of studies focuses on the process of forming implicit and explicit preferences for novel ingroups, the second series of studies addresses the formation and change of implicit and explicit intergroup attitudes when information about the groups change and when people change group membership. It is ubiquitous that group membership leads immediately to implicit and explicit preferences for novel ingroups (Ashburn-Nardo, Voils, & Monteith, 2001; Brewer, 1979; Otten & Wentura, 1999). Based on the self-anchoring hypothesis (Cadinu & Rothbart, 1996; Gramzow & Gaertner, 2005; Krueger & Clement, 1996; Otten, 2003) and stimulated by findings of Gawronski, Bodenhausen, and Becker (2007) the first research line (two studies) investigated self-esteem as an associative source of ingroup preferences. The second research line (three studies) was inspired by the influential work by Gregg and colleagues (2006) that demonstrated that implicit attitudes towards novel social groups remain stable despite of counterattitudinal information. The present research design allowed disentangling the influence of group membership on the formation and change of implicit and explicit attitudes towards social groups when information about the groups changed. Since not only information about groups change but society constrains also force people to change their group membership, I extended the research on the malleability of attitudes towards social groups by investigating the effect of changing group membership. Considering on the one hand that people immediately prefer their ingroup when being categorized and on the other hand that implicit attitudes are claimed to be difficult to change (Petty et al., 2006; Wilson et al., 2000), raised the crucial question how changes of group membership influence implicit and explicit intergroup attitudes.

The following Chapter 2 outlines the main concepts and the theoretical background relevant to the present research. First the attitude concept with reference to social groups is introduced. Then, two theories on ingroup preferences and current theorizing on attitudes are outlined, followed by a description of the basic measurement procedure that is used in the present studies. Chapter 3 provides an overview of the present research. Chapters 4 and 5 present the studies conducted to answer the research questions. In Chapter 6 the findings are summarized and discussed with prospects to future research and theoretical and practical implications.



## 2 Conceptual and Theoretical Background

### 2.1 Attitudes towards Social Groups

“Without guiding attitudes the individual is confused and baffled. Some kind of preparation is essential before he can make a satisfactory observation, pass suitable judgment, or make any but the primitive reflex type of response. Attitudes determine for each individual what he will see and hear, what he will think and what he will do.” Allport, 1935, p. 806

It is difficult to imagine that encountering someone with long hair, leather jacket and band patches, studded leather wrist-bands, chains and rings depicting skulls will leave someone with a neutral feeling and thought. It will rather happen that we recognize this person as a metalhead and that attraction or disgust comes up. Those feelings, thoughts, and reactions can depend on prior experiences with metalheads, on what one has learned about their habits and behavior, and it can depend on one’s own musical taste. When a person who likes classical music has observed metalheads dealing out blows and has read news about the recent chaotic metal festival with nine injured people, the person’s evaluation of metalheads will probably be negative.

Since the social world is complex we use cues, like the appearance of a person, to categorize this person into a social group. Social categories help us ordering the complex social environment and to save cognitive capacity (Allport, 1954). Additionally, attitudes towards social groups are activated automatically when encountering a member of a social group (cf. Fazio, 1995). In addition to social categories, attitudes towards social categories order the perceiver’s environment and provide behavioral guidance. In the case that metalheads would really be dangerous one would be well off with a negative attitude towards them because the negative attitude would signal to avoid metalheads thus it would avoid potential physical danger.

Apart from guiding behavior, attitudes can also help to define one’s identity (e.g., Smith & Hogg, 2008). To get back to the example, a person who likes metal music and shares values and beliefs with metal fans may categorize him- or herself as a metalhead. This person might then adopt the fashion and further values and might

## 2 Conceptual and Theoretical Background

distance him- or herself from people who like classical music. The group membership will be integrated into the person's self-concept, thus the person will identify as a metalhead (cf. Tajfel & Turner, 1979). The above mentioned situation, encountering someone with long hair, leather jacket etc. will activate completely different feelings and thoughts in the metalhead than in the person who likes classical music. Thus, beside information and experiences, self-categorization per se is a source of attitudes towards social groups. It is ubiquitous that people mostly evaluate and treat the group they belong to (ingroup) more positively than groups they do not belong to (outgroups, cf. Brewer, 1979). This phenomenon is known as ingroup favoritism, intergroup bias, or ingroup bias.

### 2.2 Ingroup Bias

“The human mind must think with the aid of categories. . . . Once formed, categories are the basis for normal prejudgment. We cannot possibly avoid this process. Orderly living depends upon it” Allport, 1954, p. 19

An ingroup is a social category which includes the personal self due to one's membership. A necessary condition for the existence of a social ingroup in the psychological sense is the awareness of membership (cognitive component) and that this awareness is related to some value connotations (evaluative component; Tajfel, 1982) thus, when one identifies with the social group. Ingroup bias is the positive evaluation or treatment of the ingroup relative to the outgroup. To investigate the sufficient conditions for ingroup bias, Rabbie and Horwitz (1969) and Tajfel and colleagues (1971) assigned participants to novel arbitrary social categories without intra- or intergroup interaction, without any material self-interest, any history of conflict, and without any negative interdependence between the groups. These minimal group studies revealed that categorizing people into arbitrary, novel groups was sufficient to elicit ingroup bias in intergroup allocation decisions made by the novel group members and in intergroup evaluations on trait dimensions (for review, see e.g., Brewer, 1979). The meta-analysis by Mullen, Brown, and Smith (1992) that included in- and outgroup evaluations in minimal group studies and existing groups, indisputably demonstrated that people report more positive attitudes towards ingroups than towards outgroups. Even though, the ingroup bias effect was stronger in existing groups it was still present in novel groups that were artificially created in the laboratory. Researchers that assessed intergroup attitudes with indirect measures of attitudes have also shown consistently implicit ingroup bias in novel arbitrary groups. Based on these findings researchers

concluded that social categorization is sufficient to automatically activate positive attitudes towards the self-including category (Ashburn-Nardo et al., 2001; Otten & Wentura, 1999). The outlined findings on ingroup bias reveal the omnipresence and importance of the phenomenon. In the following I will introduce two distinct theories on ingroup bias that aroused striking research interests.

### 2.2.1 Social Identity Theory's Self-Esteem Hypothesis

Tajfel and Turner (1979) posited that the self-concept comprises a personal identity, defined by idiosyncratic characteristics, and a social identity, defined by shared characteristics of relevant groups thus, from group memberships. Further, they assumed that people in general strive to achieve and maintain a positive social identity. Positive social identity is supposed to derive from favorable comparisons between the salient ingroup and relevant outgroups. Hence, according to the social identity theory, salient social categorization coupled with group identification is sufficient to motivate superior ingroup evaluations when compared to outgroups. Hogg and Abrams (1990) derived two corollaries to embody people's motivation to maintain and enhance self-esteem resulting in ingroup bias: 1) successful ingroup bias should enhance self-esteem and 2) depressed or threatened self-esteem should increase ingroup bias.

Rubin and Hewstone (1998) reviewed the literature testing the hypothesized link between self-esteem and ingroup bias and Aberson, Healy, and Romero (2000) conducted a meta-analysis. None of these overview articles found a clear support for the corollaries. Aberson et al. concluded that high rather than low personal self-esteem individuals exhibited more ingroup bias. Rubin and Hewstone came to comparable conclusions; the evidence for self-esteem as a predictor of ingroup bias as well as the evidence for a self-esteem enhancing effect of ingroup bias was weak. Nonetheless, the interest in the relationship between self-esteem, identification, and ingroup bias continues (cf. Foels, 2006) and the boost of the new class of indirect measures opened up new perspectives (cf. Gawronski et al., 2007; Greenwald et al., 2002).

### 2.2.2 Self-Anchoring

Consistent with social identity theory, authors of the self-anchoring approach (Cadinu & Rothbart, 1996; Krueger & Clement, 1996; Otten, 2003) assume that categorization per se can result in ingroup bias. Though, they suggest a cognitive rather than a motivational process accounting for ingroup bias in novel arbitrary ingroups. All of

## *2 Conceptual and Theoretical Background*

these authors assume that ingroups profit from being related to the normally positive self (e.g., Baumeister, 1998). Specifically, Cadinu and Rothbart (1996) postulated a similarity heuristic, that assimilates ingroups to the self, and an oppositeness heuristic that differentiates outgroups from the self, thus ingroups profit from being similar to the positive self whereas outgroups are contrasted to the self. A similar process, termed social projection, has been described by Krueger (e.g., Krueger & Clement, 1996). Differently from Cadinu and Rothbart, Krueger assumes only a similarity process; people believe that ingroup members share their own responses more than outgroup members, thus the individual projects more to the ingroup than to the outgroup. Hence, the self serves as a source of information that is used to give meaning to the novel ingroup. Otten and Wentura (1999) suggested that ingroup bias is based upon an automatically activated positive attitude towards the self-including social category and that is already inherent in the very act of assigning a social category to the self. Findings on ingroup bias assessed with indirect measures of attitudes and spontaneous trait inferences from the personal self to ingroups (Ashburn-Nardo et al., 2001; Otten & Moskowitz, 2000; Otten & Wentura, 1999) are consistent with the self-anchoring hypothesis. Along these lines, Gramzow and Gaertner (2005) investigated the self-evaluative base for ingroup bias and demonstrated that individuals high in self-esteem show more ingroup bias than low self-esteem individuals.

Research implementing indirect measures on attitudes indicated that these measures can enrich the study on ingroup bias (Ashburn-Nardo et al., 2001; Otten & Moskowitz, 2000; Otten & Wentura, 1999). Greenwald and colleagues (2002) extended the self-anchoring approach by focusing on the interplay of self-esteem, group evaluations, and group identification. Investigating the relationship between the three variables in existing groups revealed that one of the variables can be predicted by the product of the other two but only when assessed with indirect measures; no relation was found when assessed via self-report. Recently, Gawronski and colleagues (2007) demonstrated that associations of the self and valence transfer to owned objects and suggested that this associative self-anchoring process could be at the base for ingroup bias.

### **2.3 Implicit and Explicit Attitudes: Current Theoretical Models**

“The investigation of attitudes brings us to the center of the person’s social relations and to the heart of the dynamics of social processes. Asch, 1952, p. 577

## 2.3 *Implicit and Explicit Attitudes: Current Theoretical Models*

The conceptualization of implicit and explicit attitudes roots one the one hand in research on attention and on the other hand in memory research. From the perspective of research on attention, explicit attitudes rely on controlled processing, they demand attention, cognitive capacity and voluntary effort whereas, implicit attitudes, rely on automatic processing that needs little attention, is unlimited in capacity, and is difficult to suppress. From this viewpoint implicit attitudes are synonymously termed automatic attitudes and explicit attitudes are termed controlled attitudes. Research on implicit memory inspired the terming of conscious (explicit) attitudes opposed to unconscious (implicit) attitudes. From this perspective implicit attitudes reflect unidentified traces of past experiences (Greenwald & Banaji, 1995) thus, people are not aware of how the attitude was formed or they might even be unaware of the attitude itself. I refrain from illustrating the ongoing debate on automaticity and unconsciousness at this point since this would go beyond the scope of this work (see Moors & De Houwer, 2006a, for an extensive analysis). Importantly, in the present work I use the term “explicit attitude” for the outcome of the direct measures and “implicit attitude” for the constructs assessed via indirect measures without making any reference to the above mentioned debate (cf. Section 2.4).

Connotatively, psychological research on attitudes revealed that implicit and explicit attitudes can diverge. These findings, inspired the development of theories on attitudes that clearly differentiate between explicit and implicit attitudes and that address their formation and change. Within the following paragraphs the contemporary most prominent models that explicitly distinguish between implicit and explicit attitudes will be summarized. Particularly I will highlight their basic assumptions on the formation and change of implicit and explicit attitudes.

### 2.3.1 **MODE Model**

Fazio’s *Motivation and Opportunity as DEterminants* model defines attitude as an object-evaluation association that is stored in memory (see Fazio, 2007, for a review). Attitudes are claimed to summarize prior learning (e.g., information, passive associative learning, emotional experiences, past behavior or experiences) with respect to the valence of the outcomes produced by a given object. Given that the object-evaluation association is strong enough, it can be automatically activated when perceiving the attitude-object. The influence of automatically activated attitudes on self-report measures of attitudes is assumed to be influenced by the motivation and opportunity to engage in effortful processing. The MODE model assumes that indirect measures (cf. Section 2.4) tend to reduce the opportunity to engage in effortful processing. Thus

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responses on these measures provide a proxy for the object-evaluation association. When people lack the motivation or opportunity to engage in effortful processing direct attitude measures will also reflect the automatically activated attitude thus, explicit and implicit attitudes will correspond. Concerning the formation of attitudes, Fazio (2007) states that objects that are not yet linked with evaluative associations may be constructed relatively effortlessly on the basis of similarity to entities for which one already has attitudes represented in memory. Alternatively, the individual may deliberate about attributes that characterize an entity's favorability. Regarding the malleability of attitudes, the model claims that attitudes are relatively stable representations stored in memory. Genuine changes of attitudes thus, changes in the associations, should always be reflected in indirect measures (though not all changes in indirect measures of attitudes reflect changes in the object-evaluation associations). Changes in self-report measures could only mirror changes in the motivation or opportunity to reduce the impact of activated associations. However, it does not specify when and how these changes may occur.

### **2.3.2 Dual Attitudes Model**

The dual attitude model's main assumption is that when a new attitude is learned the former attitude is not erased but still exists with the earlier acquired one (Wilson et al., 2000). Thus, two distinct attitudes towards the same object can coexist in memory (cf. Greenwald & Banaji, 1995, for a similar approach). The implicit attitude is assumed to root in long-term experiences and is highly overlearned and robust. Implicit attitudes will be activated automatically and influence responses on indirect measures. Whereas, more recently acquired attitudes (explicit attitudes) need more capacity and motivation to be retrieved from memory. Regarding the malleability of attitudes the model clearly states that explicit attitudes change relatively easy, whereas implicit attitudes are compared with old habits that change slowly.

The dual attitude model shares with the MODE model (Fazio, 2007) the assumption that explicit attitudes need engaging in effortful processing and that implicit attitudes are activated automatically and are relatively stable. In contrast to the MODE model that assumes one underlying attitude, the dual attitude model assumes that two different summary evaluations of the same object coexist in memory. The MODE model explains divergent implicit and explicit attitudes by the motivation and opportunity to control in effortful processing whereas the dual attitude model in fact claims two distinct attitudes.

### 2.3.3 MCM

The *Meta-Cognitive Model* (Petty et al., 2006, 2007) shares the conceptualization of attitudes as stored object-evaluation associations in memory with the MODE model (Fazio, 2007). Though, it assumes that the evaluative associations go along with validity tags. It shares with the dual attitude model (Wilson et al., 2000) that old attitudes are not erased from memory but often co-exist with newly formed attitudes. Specifically it claims that an old attitude is tagged with negation when it is challenged. Retrieving negation tags is assumed to need some effortful process. Consequently explicit attitudes are thought to be more sensitive to the modification of evaluative associations via validity tags. Importantly, the MCM postulates that positivity and negativity associated with an object can be activated jointly, and can result in implicit or explicit attitudinal ambivalence. The authors claim that a state of implicit ambivalence can emerge when opposite evaluative associations to an object are present. This could be the case when positive old and negative new attitudes, or vice versa, are both activated automatically. Given that both associations are equally in strength the resulting implicit attitude may be neutral though, representing implicit attitudinal ambivalence. The MCM implies that self-report and indirect measures show the same outcome when 1) all available information have the same evaluative implication or when 2) the available information is conflicting but both positive and negative information is regarded as valid or when 3) the information is conflicting though, people do not engage in effortful processing. Explicit and implicit attitudes will diverge (explicit ambivalence) when an old attitude is qualified by new information and effortful processing retrieves the negation tag from memory. Then the implicit attitude will reflect the new and the old association though the explicit attitude will reflect only the new attitude since the old attitude is tagged with negation.

### 2.3.4 Process Models

The central principle of dual-process models is the interplay between automatic/as-associative and controlled/deliberative processes that influences thoughts, feelings, and behavior (Cunningham et al., 2007; Gawronski & Bodenhausen, 2006; Rydell & McConnell, 2006; Smith & DeCoster, 2000; Strack & Deutsch, 2004). Process models go beyond defining the conditions under which different processes operate but focus on the underlying processes by itself. In the following I will spotlight the *Associative-Propositional Evaluation* model (APE, Gawronski & Bodenhausen, 2006, 2007) that aims at integrating diverse findings on the formation and change of implicit and

## *2 Conceptual and Theoretical Background*

explicit attitudes.

Gawronski and Bodenhausen's APE model distinguishes between associative and propositional processes (Gawronski & Bodenhausen, 2006, 2007). Associative processes are defined as the activation of associations in memory which is independent of subjective truth or accuracy. Activation of associations is assumed to be guided by principles of similarity and contiguity. Further, it depends on the pre-existing structure of associations and on the momentary set of input stimuli. In line with the above mentioned models, the APE model regards indirect measures as a proxy for the activation of associations in memory though, unqualified by subjective truth or falsity. According to the APE model, activated associations serve as a base for explicit attitudes, unless the information is invalidated by a propositional validation process which is based on principles of logical consistency. Thus dissociation between implicit and explicit attitudes results when the information implied by the activated associations is inconsistent with other information and is thus, rejected on the propositional level. The model assumes interplay between the both processes; associative processes serve as a base for propositional processes and propositional validation processes can activate new associations in memory. The formation of new associations in memory are claimed to occur 1) by propositional learning, that is based on insight into the validity of an object-evaluation relation or 2) by associative learning, that is driven by the mere co-occurrence of objects. In concert with the MCM (Petty et al., 2006, 2007) the APE model puts a focus on validity processes. Whereas the MCM assumes that validity can result from the confidence with which an attitude is held (attitude strength), the APE rather suggests that validity stems from the above mentioned consistency analysis. Generally, the MCM and the APE model correspond concerning their assumptions and predictions. Specifically the MCM is a model of attitude structure whereas, the APE model is a model of dual process.

In a nutshell, all of the presented theories postulate that implicit attitudes rely on associations independently of subjective truth or falsity, whereas explicit attitudes although influenced by activated associations depend on the subjective truth or falsity or alternatively, on the motivation and opportunity to engage in effortful processing. Furthermore, most of the models assume that associations root in (slow) associative learning processes and are stored in memory with varying degrees of strength (MODE model, dual attitudes model, MCM). Consequently, implicit attitudes are mostly claimed to be more difficult to change than explicit attitudes (MODE model, MCM) or are even assumed to be stable and enduring (dual attitude model). The APE model (Gawronski & Bodenhausen, 2006, 2007) specifies that associative as well as

propositional learning can create new associations and depending on the influencing factor either implicit or explicit attitudes can be more malleable. Whereas manipulating associations directly, easily change implicit attitudes, inconsistency in the considered information easily changes explicit attitudes. Before I will give an overview of the present studies that address the issue of forming and changing implicit and explicit attitudes towards social ingroups, the next chapter introduces the measure of implicit attitudes that has been implemented in the present sets of studies.

## 2.4 Measurement of Intergroup Attitudes

Thurstone's article "Attitudes can be measured" (Thurstone, 1928) initiated a measurement revolution in psychological research. Thurstone referred to the assessment of the attitude construct by collecting participants' answers on a set of items that results in a multi-item self-report scale. Providing a procedure to come up with an attitude scale, Thurstone was obvious with the limitation that people are able and may therefore modify their answers, particularly when external pressure to do so is high. This is particularly true when intergroup attitudes are assessed since strong egalitarian social norms and self-control influences self-reported attitudes towards social groups. Even when people well-intent to report the attitudes they truly hold they might be limited to introspection, and amongst others their answers might depend on scale interpretation and standards of comparison. Thus quoting Fazio "Responses to a verbal query should not be viewed as attitudes per se. They are verbal expressions of the attitude, subject to many forces beyond the influence of any evaluative associations that might exist in memory." (Fazio, 2007, p. 13). To overcome this limitation a new generation of attitude measures initiated a second measurement revolution. These new measures differ from traditional self-report measures, in the way that they do not require asking people's judgments on an attitude object thus, they are less influenced by conscious control. In contrast, the new indirect measures infer people's attitudes from their performance on categorization tasks thus they are mostly based on reaction times (e.g., Greenwald et al., 1998; Fazio et al., 1995; Payne et al., 2005). These reaction time measures of attitudes aim to provide a more proximal estimate of attitudinal representations than it is possible with self-report measures. Among those reaction time measures the Implicit Association Test (IAT, Greenwald et al., 1998) has emerged as a useful method to assess implicit attitudes. In the following I will explain the IAT in a bit more detail since I implemented it in all of the present studies as the measure of implicit intergroup attitudes.

## 2 Conceptual and Theoretical Background

The IAT is a dual categorization task in which participants categorize words as positive or negative, and stimuli to their target category by pressing one of two keys on the computer keyboard. IATs are implemented to measure for example implicit attitudes towards Blacks relative to attitudes towards Whites. In such a Black-White IAT faces of Blacks and faces of Whites can serve as stimuli for the target category Black and the category White. The IAT consists of two test tasks. Given the example of the Black-White IAT; in one of the test tasks participants must classify White faces and positive words with one response key, and Black faces and negative words with the other key. A person with a strong preferences for Whites should find this task easy which would reflect in quick responses to the stimuli. In the other test task the category pairings are reversed, such that White faces and negative words must be categorized with one key, and Black faces and positive words are categorized with the other. A person with strong preferences for Whites should find these trials to be difficult and perform them more slowly. Implicit preferences for Whites would reflect in faster responses on the White/Positive-Black/Negative task than in the White/Negative-Black/Positive task. The score derived from the reaction times is the “IAT effect”, that is calculated by the difference of the overall response latencies for both test tasks divided by its overall standard deviation. Basically, the IAT effect reflects the strength of automatic associations (the ease with which attitude consistent responses are made) but in addition, the extent to which controlled processing is needed (the difficulty with which an attitude inconsistent response is made, cf. Conrey, Sherman, Gawronski, Hugenberg, & Groom, 2005). Therefore, it does not provide an entirely pure reflection of activated associations but, can be interpreted as a proxy for the relative strength of associations of social categories with valence thus, implicit intergroup attitudes.

Since the IAT is widely used to measure associative strength, and because of its reasonable good reliability and sensitivity it was considered to be particularly useful for the present set of studies (for a review of the psychometric properties of the IAT, see Nosek & Smyth, 2007). Importantly, there is accumulating evidence for its discriminant predictive validity. Whereas explicit attitudes have been shown to predict deliberate behavior, implicit attitudes obtained by reaction times in IATs are particularly useful in predicting spontaneous behavior in socially sensible topics, such as intergroup behavior (Greenwald et al., 2009).

### 3 Overview of the Present Studies

The main goal of the present set of studies was to examine the formation and change of implicit and explicit attitudes towards groups one belongs to. This work rests on two main assumptions. On the one hand, implicit and explicit ingroup preferences are formed quickly when individuals are categorized into a social group (cf. Section 2.2; Tajfel et al., 1971; Otten & Wentura, 1999). On the other hand, in line with the common assumption in research on attitudes, implicit attitudes are more resistant to change than explicit attitudes (cf. Section 2.3; Gregg et al., 2006; Petty et al., 2006; Rydell, McConnell, Strain, Claypool, & Hugenberg, 2007; Wilson et al., 2000). Combining these two states of research I conducted two sets of studies. First, I assumed an associative process at the base of ingroup preferences. More precisely, I expected that after categorization into an arbitrary group self-related associations would transfer automatically to the group given that the group is linked to the self. This assumption is addressed in the first two studies. The second research line consisting of three experiments followed the question how group membership influences the formation and change of implicit and explicit attitudes towards social groups.

Recent research on self-anchoring either used existing groups (e.g., gender, Otten & Epstude, 2006); or categorized individuals into novel social groups according to a bogus test (e.g., Gramzow & Gaertner, 2005). In both cases people either experienced that they share traits with other ingroup members or the experimenter made them believe that they share a critical trait with other members of their group. Study 1 was conducted to demonstrate that similarity is not necessary for implicit and explicit preferences for ingroups (cf. Billig & Tajfel, 1973). I assumed that when people link their self to a group, categorization per se is a sufficient precondition for implicit and explicit group preferences. In addition, linking the self to a group would smooth the way for self-related valence to spread over to the self-including social category. Given no further information about the groups, the activated self-related associations would be used also as a base for explicit ingroup evaluations thus explicit ingroup preferences. Hence, Study 2 assessed implicit personal self-esteem and identification with the novel group and used them as predictors for implicit and explicit intergroup bias.

### *3 Overview of the Present Studies*

The second research line took the associative self-anchoring approach (Gawronski et al., 2007) and recent research on the malleability of implicit and explicit attitudes towards novel social groups as a starting point (Gregg et al., 2006). Study 3 investigated if ingroup attitudes are formed and changed the same way as attitudes towards novel social groups one does not belong to. Therefore, I investigated the influence of group membership on the formation and change of implicit and explicit attitudes towards novel social groups that were described with clear positive or negative information. The design allowed to directly address the influence of membership on the resulting attitudes. Based on the associative self-anchoring approach, I assumed that people add positive valence when implicitly evaluating ingroups even in the presence of clear negative or positive descriptive information about the ingroup. However, explicit group evaluations would not be influenced by self-related positivity since on a propositional level and to resolve inconsistency, propositions would reject the self-related associations and only rely on the objective information about the groups (cf. 2.3.4; Gawronski & Bodenhausen, 2006; Gawronski et al., 2007). Given the associative nature of implicit attitudes I assumed that when information about the groups changed implicit group evaluations would reflect all activated associations those by the initial descriptive information, the contrary information, and positive valence due to group membership. However, Gregg and colleagues concluded that implicit attitudes towards novel social groups resist change even when information about the groups reverse (Gregg et al., 2006). I investigated this issue using a different research design to exclude an alternative explanation of measurement related learning effects which could be applied to Gregg and colleagues' findings.

Moreover, the second research line investigated the malleability of implicit and explicit intergroup attitudes when people change group membership. Since society constrains often force people to change their group membership the malleability of ingroup preferences is an important issue. On the negative side, enduring implicit preferences for a previous ingroup after changing group membership might hinder people adapting to their new ingroup. Though, on the positive side it might reduce prejudice towards outgroups. Studies 4 and 5 investigated the malleability of implicit and explicit ingroup preferences when people had to change group membership. Based on theorizing and prior findings I retrieved two opposing predictions. On the one hand, ingroup preferences easily take root thus, categorization might immediately lead to implicit and explicit ingroup preferences irrespectively of previous group membership. On the other hand, implicit attitudes are assumed to be more resistant to change than explicit attitudes (cf. Section 2.3; Gregg et al., 2006; Petty et al., 2006; Rydell

et al., 2007; Wilson et al., 2000) thus, participant's implicit group preferences might stick to their previous ingroup. Two experiments are presented that tested whether implicit ingroup preferences are reduced in people who had to change membership compared to those who did not change group membership. In Study 4 participants were categorized according to a bogus test into one of two group. Half of each group got the information about accidentally wrong assignment and that they are in fact members of the other group. In Study 5 participants worked on a pretended group task before half of them had to change to the previous outgroup. The following Chapters 4 and 5 present the two lines of research in detail, including the studies conducted and their results.



# 4 We Are Good Because I Am Good!

## Implicit Self-Esteem as a Base of Intergroup Bias

### 4.1 Introduction

Categorizing individuals into teams at a soccer match will instantly lead members of Team A to like Team A more than Team B. The phenomenon that people favor groups they belong to over groups they don't belong to is a source of discrimination. Intergroup bias<sup>1</sup> does not need a competitive setting (winning the soccer match) or de facto group differences. Categorization is assumed to be the sufficient condition for intergroup bias: As soon as people belong to a group they prefer the ingroup over the outgroup (Ashburn-Nardo et al., 2001; Brewer, 1979). Self-anchoring has been postulated as a root of intergroup bias in novel and mostly unknown groups (Cadinu & Rothbart, 1996; Gramzow & Gaertner, 2005; Otten & Wentura, 1999): When no knowledge about the groups is available, the personal self is used as an anchor for evaluating the novel ingroup. Since self-evaluations are in general positive (Baumeister, 1998) the ingroup profits from being defined in terms of self-evaluations, thus resulting in intergroup bias. The aims of the present article are testing the minimal conditions of intergroup bias and investigating an associative process (associative self-anchoring) at a base of intergroup bias. If the automatic process of associative self-anchoring can be shown as a root of intergroup bias, this source of discrimination seems to be indeed ubiquitous and inevitable.

Complementing motivational theories accounting for intergroup bias (Hewstone, Rubin, & Willis, 2002), Cadinu and Rothbart (1996) postulated self-anchoring<sup>2</sup> as a

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<sup>1</sup>Ingroup bias, ingroup favoritism, and intergroup bias are used synonymously in the current literature. We were interested in relative differences between ingroup and outgroup evaluations and used relative measures of evaluation. Accordingly, we use the term intergroup bias to refer to relative preferences of the ingroup over the outgroup.

<sup>2</sup>Self-anchoring has been termed social projection by other authors (Krueger & Clement, 1996; Bianchi, Machunsky, Steffens, & Mummendey, 2009).

#### *4 Implicit Self-Esteem as a Base of Intergroup Bias*

very basic root of intergroup bias. Particularly, when clear knowledge about the groups is not available, that is, in unfamiliar or ill-defined groups, individuals use knowledge about personal traits to define the ingroup (Otten & Wentura, 2001). Hence, if a person describes him- or herself as likeable, other ingroup members are assumed to be likeable, too.

Self-anchoring has mostly been investigated using artificial groups (cf. Cadinu & Rothbart, 1996; Gramzow & Gaertner, 2005; Otten & Wentura, 1999). The advantage of this procedure is that there is no specific information about the groups other than the dimension that determined the categorization (cf. Otten & Epstude, 2006, p. 959). Therefore, any relationship between self-knowledge and group-evaluations must be due to self-knowledge; the alternative path (i.e., self-stereotyping: defining the self in terms of the ingroup) can be excluded (Krueger, 2007). So far, all demonstrations of self-anchoring used either existing groups or a minimal group procedure: Participants learned about a trait-dimension distinguishing different groups of people (e.g., over- or underestimating); performed a bogus test to identify their membership; and were categorized accordingly.

An important limitation of research using a minimal group procedure is that participants' categorization was based on alleged personal traits that are shared between them and the group to which they are assigned. Telling participants about a personal trait they share with other people gives them reason to assume that group members are similar to themselves. This could make participants believe that ingroup members share other self-characteristics, too. Consequently, participants could show more favorable attitudes towards ingroup members because they assume them to be similar to the self. Based on this reasoning, Billig and Tajfel (1973) categorized participants explicitly by chance to a "group W" or a "group X", demonstrating that intergroup bias on an explicit level can emerge after categorization alone. Additionally, they showed that categorization according to similarities led to more explicit intergroup bias than categorization alone.

As it has been argued that mere categorization rather than similarity leads to a transfer of self-knowledge to a novel ingroup, similarity between the self and group members should be ruled out when testing the self-anchoring hypothesis. In the present studies we categorized participants on explicit random base. Thus, participants are not made to believe that they share traits with their ingroup members. Consequently, if an effect of the manipulation is found on evaluations of groups, it is due to categorization alone and does not require similarity.

Current theorizing distinguishes explicit from implicit evaluations, with explicit

evaluations based on propositional processes and implicit evaluations based on associations (e.g., Associative-Propositional Evaluation or APE Model, Gawronski & Bodenhausen, 2006). Implicit intergroup bias has been demonstrated when participants were categorized according to a minimal group procedure (Ashburn-Nardo et al., 2001; Otten & Wentura, 1999). Following our argument above, participants could have assumed some similarity between the self and the novel ingroup which led to implicit intergroup bias. Therefore, a demonstration of implicit intergroup bias is missing under conditions where any similarity between the participant's characteristics and the group they are assigned to is ruled out. We thus investigated implicit intergroup bias under explicit random categorization conditions.

In line with self-anchoring, Otten and Wentura (2001) have shown that personal traits can serve as a base of defining novel ingroups. Since traits are generally connected with valence, self-evaluations have been proposed to serve as a base of evaluative intergroup bias (cf. Cadinu & Rothbart, 1996; Rubin & Hewstone, 1998). Given that normally the overall evaluation of own traits (self-esteem) is positive (Baumeister, 1998), the ingroup should benefit from being defined on the basis of self-knowledge. Accordingly, individuals high in explicit personal self-esteem displayed more explicit intergroup bias (Gramzow & Gaertner, 2005; Otten & Wentura, 2001).

A drawback on self-esteem research is that self-reported (i.e., explicit) self-esteem is based on an active construction process. Since overpresenting is highly encouraged in Western cultures, strategies to present oneself positively can easily influence responses on self-esteem questionnaires (Olson, Fazio, & Hermann, 2007). Reaction-time measures such as Implicit Association Tests (IATs) are implemented to assess peoples' association-based or implicit evaluations of their self, revealing that implicit self-esteem also is positive normally (Bosson, Swann, & Pennebaker, 2000; Greenwald & Farnham, 2000).

Implicit self-esteem is theorized to be more closely related than explicit self-esteem to core self-esteem basically based on associations between self and valence (Dijksterhuis, Albers, & Bongers, 2009). This positive evaluation may automatically spread to everything associated with the self. Thus, the self might function like an unconditioned stimulus (De Houwer, Thomas, & Baeyens, 2001; Walther, Nagengast, & Trasselli, 2005). In line with this idea, Gawronski et al. (2007) have shown that ownership can create an automatic association between owned objects and the self, thereby leading to an associative transfer of implicit self-evaluations to newly acquired objects (associative self-anchoring).

Drawing on Gawronski et al.'s associative self-anchoring account, we tested if asso-

ciative self-anchoring can explain intergroup bias after explicit random categorization. The APE Model (Gawronski & Bodenhausen, 2006) suggests that an activated association can directly result in an implicit evaluation. Regarding explicit evaluations, the model implies that associative transfer should also be reflected in explicit evaluation when no information is available to provide a rationale for evaluation. This should be the case after explicit random categorization since no information about the groups is available. We thus tested if implicit personal self-esteem predicts explicit in addition to implicit intergroup bias after explicit random categorization.

For self-evaluations to spread to a novel group, the group needs to be linked to the self. To our understanding the individual's identification with a group reflects the link between the group and the self (Greenwald et al., 2002). The more group members perceive themselves as being part of the novel group, the more should their self-evaluations spread to the ingroup. This implies that in those highly identified with their new group implicit self-esteem should particularly serve as a base of implicit and explicit intergroup bias.

In a nutshell, the aim of the present research was to test the limits of assimilating an arbitrary group to the self leading to a relative preference of the ingroup over the outgroup. Study 1 intended to demonstrate explicit and implicit intergroup bias when participants are explicitly categorized on random base, so they have no reason to assume similarity between the self and the new ingroup. Study 2 aimed to explore if implicit personal self-esteem can predict implicit and explicit intergroup bias for participants identified with the ingroup after explicit random categorization.

## **4.2 Study 1**

Study 1 aimed to replicate explicit and demonstrate implicit intergroup bias after explicit random categorization. We assigned participants to their group explicitly on a random base, so that they have no reason to assume any similarity between the self and group members. Since identification determines whether social categorization results in intergroup bias (Oakes, 2001) we also included a measure to assess if participants identified with their group.

### 4.2.1 Method

#### Participants

We recruited 31 participants (18-36 years,  $M = 22.40$ ;  $SD = 4.70$ ; 21 female) on university campus to participate in a study on “mental flexibility”.

#### Procedure & Materials

Participants were seated individually in a cubicle and randomly assigned to one of two conditions of the computer-based experiment. The program only differed in assigning participants either to a “group X” ( $n = 16$ ) or to a “group W” ( $n = 15$ ). The alleged aim of the study was to investigate mental flexibility and first impressions. Participants learned that “The computer will assign you by chance to one of two groups.” Then a reaction time task would be performed to assess mental flexibility before evaluations of people and groups would follow in order to investigate first impressions. Having read the cover story participants were shown their random based group-membership and were asked to remember it. Then, implicit evaluations of “group W” and “group X” were assessed before explicit evaluations.

**Implicit intergroup bias.** Implicit intergroup bias was assessed using an Implicit Association Test (IAT, Greenwald et al., 1998). In addition to three practice tasks (16 trials each), two combined tasks (64 trials each) assessed the relative ease to which positive and negative was associated with “group X” and “group W”. Stimuli for each group were two female and two male photographs (selected from Minear & Park, 2004)<sup>3</sup> which we marked with X or W between the eyes, left or right to the nose or on the chin to indicate that these persons are members either of “group X” or of “group W”. All pictures were black and white frontal photographs of young people with neutral facial expression. Four stimulus words indicated the positive attribute category (*good, attractive, warm, intelligent*), and the negative category (*bad, repelling, cold, stupid*). In the first combined task (Group X/Positive - Group W/Negative), participants categorized photographs with an X and positive attributes on the same computer key (e) and photographs with a W and negative attributes with a different key (i). In the second combined task (Group X/Negative - Group W/Positive) the attribute categories were reversed. Because we were interested in individual differences IAT task order was held constant (cf. Egloff & Schmukle, 2002). Stimuli were presented in

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<sup>3</sup>A pre-test ensured that photographs of both groups did not differ in attractiveness [ratings, 1 = not attractive, 7 = very attractive; Group X:  $M = 3.15$ ,  $SD = 0.78$ ; Group W:  $M = 3.21$ ,  $SD = 0.84$ ;  $t(22) = -0.41$ ,  $p = .68$ ].

a random order with an intertrial interval of 150 ms. Category labels were displayed throughout in the left and right upper corners of the screen. Incorrect responses were denoted by a red X that remained on the screen until the correct response was made.

**Explicit intergroup bias.** The evaluative attributes used in the IAT were presented together with the label “group W” or “group X” in randomized order. Participants were asked to rate if in their opinion the attribute applied to the mentioned group. The ratings on negative and positive traits for the ingroup and outgroup were assessed separately.

Identification with the ingroup was assessed with four items (i.e., cognitive identification, “I identify with group X/W”, and evaluative identification, “I like being member of group X/W” that were averaged to form one scale ( $\alpha = .96$ ). All ratings used a 7-point scale (1 = does not apply at all, 7 = applies completely). A manipulation check item followed on which participants had to indicate their group membership. Finally demographic data were collected before participants were dismissed.

#### 4.2.2 Results and Discussion

Identification of participants with the groups they were randomly assigned to was clearly above 1,  $M = 3.27$ ,  $SD = 1.98$ ; one sample t-test;  $t(30) = 6.37, p < .01, r = .76$ , indicating some level of identification with the novel ingroup that allowed testing our main hypotheses. The IAT effect was computed as the IAT D effect (Greenwald, Nosek, & Banaji, 2003), but no error penalty was added (cf. Steffens, Kirschbaum, & Glados, 2008). Positive IAT effects indicate more positive implicit evaluations of the ingroup than the outgroup. Internal consistency based on IAT halves was  $\alpha = .92$ . Ratings on negative attributes were reverse coded; then mean ratings of the outgroup were subtracted from mean ratings of the ingroup. Again, positive scores indicate more positive evaluations of the ingroup than the outgroup. All explicit group evaluations revealed acceptable internal consistency, ingroup:  $\alpha = .71$ ; outgroup:  $\alpha = .61$ .

As predicted, one-sample t-tests showed that the IAT effect was significantly above zero,  $M = 0.20$ ,  $SD = 0.03$ ;  $t(30) = 3.23, p < .01, r = .51$ , indicating implicit intergroup bias. On average participants categorized stimuli 81 ms faster when ingroup/positive (outgroup/negative) shared one response key than when ingroup/negative (outgroup/positive) shared one response key. The same effect was shown for explicit group evaluations. Ingroup members were evaluated more positive than outgroup members,  $M = 0.58$ ,  $SD = 1.39$ ;  $t(30) = 2.32, p = .03, r = .39$ , indicating explicit intergroup bias. Thus, in line with the assumption that categorization per se is sufficient for explicit and implicit intergroup bias, results showed that explicit

random assignment to a group leads not only to explicit, but also to implicit intergroup bias. Therefore, assumed similarity between the self and the arbitrary group is neither a necessary precondition for explicit nor for implicit intergroup bias.

## 4.3 Study 2

Study 1 has shown that categorization irrespective of similarity leads to explicit and implicit intergroup bias. Given this demonstration, in Study 2 we tested if personal implicit self-esteem is a base of such implicit and explicit intergroup bias. Based on associative self-anchoring (Gawronski et al., 2007) we assume that categorizing individuals into a novel group on explicit random base leads to an associative transfer of self-evaluations to the novel group in case the individual identifies with the new ingroup. We expected that implicit self-esteem predicts implicit intergroup bias the more participants identify with the new ingroup. We assumed that the associative transfer of implicit self-esteem to the ingroup would be also feasible on explicit intergroup bias the more participants identify with the group since no further information about the groups was available. To investigate the relationship between implicit self-esteem, identification, and explicit and implicit intergroup bias unconfounded by a-priori group (letter) evaluations, in Study 2 we hold group membership for all participants constant, assigning them to “group W”.

### 4.3.1 Method

#### Participants

We recruited 120 participants on the university campus. Implicit self-esteem was assessed before participants were assigned on explicit random base to “group W”, while another “group X” was mentioned. Two participants were excluded from the analysis since they indicated on the manipulation check that they were member of “group X”. The remaining 118 participants were 18-46 years,  $M = 22.90$ ,  $SD = 3.72$ ; 73 female.

#### Procedure & Materials

The cover story and the procedure followed Study 1. In addition, in Study 2 implicit self-esteem was assessed before any reference to social categorization was made. Categorization into “group W” as well as measures of implicit ( $\alpha = .64$ ) and explicit group-evaluations (ingroup:  $\alpha = .71$ ; outgroup:  $\alpha = .79$ ), and assessment of

identification ( $\alpha = .88$ ) exactly followed the procedure of Study 1.

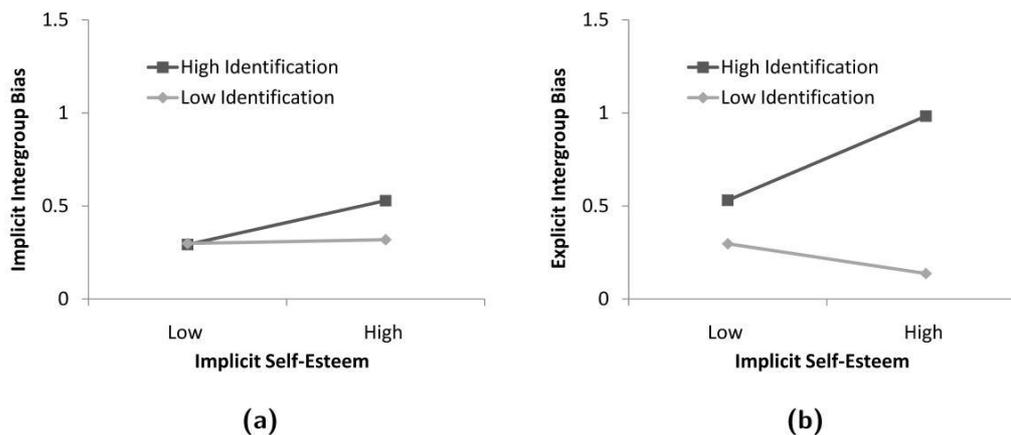
**Implicit self-esteem.** Implicit self-esteem was assessed via a self-esteem IAT (cf. Greenwald & Farnham, 2000). Internal consistency based on IAT halves was  $\alpha = .60$ . Procedural details and attributes for the positive and negative categories were identical to the intergroup bias IAT. Four stimuli (*I, me, mine, self*) indicated the category “self”, four stimuli (*those, whose, them, other*) the category “other”. This IAT results in an individual relative score of evaluation of self and others.

### 4.3.2 Results

IAT scores were computed as in Study 1. Higher positive self-esteem IAT effects indicate higher levels of implicit self-esteem. One sample t-tests showed that implicit self-esteem scores,  $M = 0.86$ ,  $SD = 0.26$ , were significantly above zero,  $t(117) = 35.93$ ,  $p < .01$ ,  $r = .96$ , indicating that implicit self-esteem was generally very positive. Indices of implicit and explicit group-evaluations also were significantly above zero, indicating implicit and explicit intergroup bias, implicit:  $M = 0.36$ ,  $SD = 0.31$ ;  $t(117) = 12.78$ ,  $p < .01$ ,  $r = .76$ ; explicit:  $M = 0.49$ ,  $SD = 0.85$ ;  $t(117) = 6.28$ ,  $p < .01$ ,  $r = .50$ . In general, identification with the ingroup was clearly above 1,  $M = 3.47$ ,  $SD = 1.35$ ;  $t(117) = 19.97$ ,  $p < .01$ ,  $r = .88$ , but below the scale mean,  $t(117) = -4.26$ ,  $p < .01$ ,  $r = .37$ .

**Implicit intergroup bias.** In order to test whether implicit self-esteem predicts implicit intergroup bias given identification, a multiple regression analysis was conducted with z-standardized implicit self-esteem, identification, and their interaction as independent variables, and implicit intergroup bias as dependent variable. The regression explained 11% of the variance,  $F(3, 114) = 4.57$ ,  $p < .01$ . Implicit self-esteem predicted implicit intergroup bias,  $\beta = .21$ ,  $p = .02$ , and so did identification,  $\beta = .16$ , one-tailed  $p = .04$ . Most importantly, these main effects were qualified by a significant interaction of implicit self-esteem and identification,  $\beta = .18$ ,  $p = .05$ . Results of simple slopes tests (Aiken & West, 1991) were consistent with our prediction. For those participants who highly identified with the ingroup ( $+1SD$ ) higher levels of implicit self-esteem predicted higher levels of implicit intergroup bias,  $\beta = .38$ ,  $p < .01$  (see Figure 4.1a). In contrast, for those participants who identified lowly with their group ( $-1SD$ ), implicit self-esteem was not related to implicit intergroup evaluations,  $\beta = .03$ , *ns*.

**Explicit intergroup bias.** The same multiple regression analysis on explicit intergroup bias explained about 15% of the variance,  $F(3, 114) = 6.85$ ,  $p < .01$ . There was no main effect of implicit self-esteem,  $\beta = .09$ , *ns*, but identification had



**Figure 4.1:** Simple slopes for the two-way interaction of implicit self-esteem and identification on (a) implicit intergroup bias and (b) explicit intergroup bias (Study 2).

a significant impact on explicit intergroup bias,  $\beta = .32$ ,  $p < .01$ . This main effect of identification was qualified by a significant interaction of implicit self-esteem and identification,  $\beta = .18$ ,  $p = .04$ . Simple slope tests revealed, as predicted, for those participants who highly identified with the ingroup the higher their implicit self-esteem, the higher their explicit intergroup bias,  $\beta = .27$ ,  $p = .03$  (see Figure 4.1b). In contrast, for those participants lowly identified with their group, implicit self-esteem was not related to explicit group evaluations,  $\beta = -.09$ , *ns*.

### 4.3.3 Discussion

In line with the aim of Study 2, we were able to show that implicit personal self-esteem predicts implicit and explicit intergroup bias in people who identify highly with the new ingroup. In contrast, we found no relation between implicit self-esteem and implicit or explicit intergroup evaluations in participants who identified lowly. Since identification was generally below average in the present study, we assume that participants one standard deviation below the sample mean did not identify enough with the arbitrary ingroup. As mentioned above, these results support the idea that some level of identification is necessary to connect the self and the group, providing the ground for an associative transfer of self-evaluations to the ingroup after mere categorization.

By using explicit random categorization we neither provided information about the groups nor the categorization dimension itself. Therefore we conclude that associative self-anchoring accounted for the relation between implicit self-esteem and implicit

intergroup bias given identification. Associative self-anchoring also applied to explicit intergroup bias in participants who identified with the ingroup after explicit random categorization.

## 4.4 General Discussion

Two studies demonstrated explicit and implicit intergroup bias when participants were categorized on explicitly random terms without providing any information about the groups. By using explicitly random categories our findings indicate that neither explicit nor implicit intergroup bias requires assumed similarities between the self and the new group, but merely categorization (cf. Billig & Tajfel, 1973). Furthermore, our data support the idea that implicit and explicit intergroup bias after categorization can be due to an associative self-anchoring process (Gawronski et al., 2007): In people identified with the group, implicit self-evaluations spread to the new ingroup resulting in implicit and explicit intergroup bias. This process appears similar to that demonstrated for the preference of chosen objects over rejected objects (Gawronski et al., 2007). However, we demonstrated associative self-anchoring for the preference of random social categories both at an implicit and explicit level. In the present study the link between the self and the group was reflected in the level of identification. We showed that implicit self-evaluations transferred to the ingroup only for participants who identified relatively highly with their group.

In the present study we assessed both implicit self-esteem and implicit intergroup bias with an IAT, relying on the same trait stimuli. Therefore, one might wonder whether the relation we found between implicit self-esteem and implicit intergroup bias was artificially increased in that the group IAT was mentally represented as a replication of the self-esteem IAT. However, this is unlikely. First, the correlation between both IATs was only moderate. Second, on average, implicit self-esteem was much higher than implicit intergroup bias. Finally and most importantly, the interaction with identification speaks against this idea.

We precluded any knowledge about the groups in an attempt to show an associative self-anchoring-process as a very basic process of intergroup bias. We thus demonstrated associative self-anchoring as a starting point of automatically favoring ingroups over outgroups. When more information about the groups is available further processes may come into play. In case a group stereotype has been established the self could also be defined in terms of the ingroup stereotype (i.e., self-stereotyping, Krueger, 2007). Self-stereotyping can also lead to an overlap between traits descriptive of the

self and descriptive of the ingroup (Coats, Smith, Claypool, & Banner, 2000; Otten & Epstude, 2006). Defining the self in terms of ingroup stereotypes could also work on an associative level; this would be associative self-stereotyping: The valence of the ingroup stereotypes spread to the self. Associative self-stereotyping could come into play when group membership is salient and the stereotype about the target group is well established. However, this idea needs empirical investigation.

Without doubt, a number of motivational consequences and implications also follow from social categorization. Beyond mere categorization, some social groups are more integrated into the self-concept and hold more meaning than others. When this is the case people want to establish and maintain the perception of them as being positively distinguishable from other relevant outgroups. Therefore, they may engage in more intergroup bias which in turn can be beneficial for self-esteem (Smurda, Wittig, & Gokalp, 2006; Tajfel & Turner, 1979; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). In general, we assume an interplay of heuristic and motivational processes resulting in a relation between self-esteem and intergroup bias. Future research should focus on the interplay of both processes.

The demonstrated cognitive process of associative self-anchoring can also contribute to the understanding of phenomena observed in meaningful group settings. Rudman and colleagues showed that threats to identity can increase implicit self-esteem. They termed this self-defense mechanism that automatically buffers people from threats, implicit self-esteem compensation (Rudman, Dohn, & Fairchild, 2007). They demonstrated that implicit self-esteem partially can explain the effect of threat on increased implicit preferences for Whites than Blacks in white participants. Whereas implicit self-esteem compensation accounts for the effect of threat on implicit self-esteem, our results suggest that associative self-anchoring explains the additional effect of implicit self-esteem on implicit intergroup bias.

We showed that implicit self-esteem not only predicted implicit but also explicit intergroup bias. In line with the APE Model (Gawronski & Bodenhausen, 2006), activated associations (implicit self-esteem) were reflected in explicit evaluation (explicit intergroup bias) because the activated associations were not rejected by a higher-order propositional process: Since no knowledge about the groups was available in the present study, associative self-anchoring also led to explicit group-evaluations with implicit self-esteem being positively related to explicit intergroup bias. A further research question is whether implicit and explicit ingroup evaluations still profit from associative self-anchoring when a new ingroup is clearly described with negative traits. Drawing on the APE Model we suggest that associative self-anchoring would still affect

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implicit group-evaluations. However, explicit group evaluations could be influenced only by the information received about the groups. Hence, the associative transfer of positive self-esteem to the ingroup would be considered as false, and the activated associations should be rejected on a propositional level, that is, corrected by the explicit knowledge about the groups. Consequently, associative self-anchoring would be reflected in implicit group-evaluations but no longer in explicit ones (cf. Rudman et al., 2007).

As we were concerned with the associative base of intergroup bias, we have only investigated evaluative aspects of self and ingroup. A question not yet tackled is whether self-ascribed traits are also extended to the ingroup in an explicit random-categorization paradigm. When people are asked to evaluate a novel ingroup after explicit random categorization we assume that they will use self-ascribed traits in order to solve judgmental uncertainty (cf. Otten & Epstude, 2006). Future research should test if self-descriptive traits are also used for ingroup judgments after explicit random categorization.

Future work should investigate whether individuals low in implicit self-esteem (e.g., individuals with current depression) show implicit and explicit intergroup bias after explicit random categorization. We expect that even individuals with current depression show implicit intergroup bias because implicit self-esteem of depressive individuals is still positive, even though lower than self-esteem of healthy controls (Risch et al., 2010). Therefore, individuals with depression should show less implicit intergroup bias than individuals without any disorder. In contrast, we assume that they won't show any explicit intergroup bias as their maladaptive cognitions, including a negative view about themselves and the world, presumably overwrite the associative effect of implicit self-esteem.

In the present study we investigated the relative preference of the ingroup over the outgroup. We have not addressed the question whether intergroup bias is driven by ingroup enhancement or outgroup derogation. Nevertheless, by showing that associative self-anchoring can account for implicit and explicit intergroup bias the present research adds to the literature that ingroup enhancement through associative transfer of positive self-evaluations is one component involved in intergroup bias (Otten & Moskowitz, 2000; Mummendey & Otten, 1998). Therefore, the ingroup profits from the link with the self whereas there is no such link or even an inhibition between the self and outgroups (Popa-Roch & Delmas, 2010).

For decades, it appeared as if Billig and Tajfel (1973) had pushed the phenomenon of intergroup bias to its limits, demonstrating it after explicit random categorization.

Then, Otten and Wentura (1999) showed that implicit intergroup bias easily takes root in artificial and therefore, ostensibly trait-based groups. The present studies suggest that even explicit random categorization leads to implicit (and explicit) intergroup bias and that this is based on associative self-anchoring: (Typically positive) implicit self-esteem can be an automatic base of automatic (implicit) and also more deliberate (explicit) intergroup bias. From our results we infer that an associative transfer of self-evaluations is a base of implicit and explicit intergroup bias leading to the powerful and ubiquitous phenomenon of preferring ingroups over outgroups. This automatic process is a starting point of unequal evaluations of different groups and discrimination.

In the next chapter I will present a set of studies (Studies 3-5) that took the findings on associative self-anchoring as a starting point. First, I investigated the influence of group membership on the formation of implicit and explicit attitudes towards novel social groups when clear positive or negative descriptive information about the groups is present. Second, I focus on the malleability of implicit and explicit intergroup attitudes when 1) the valenced information is reversed and 2) when individuals change group membership.



# 5 Easily Liked and Disliked? Formation and Change of Explicit and Implicit Attitudes towards Ingroups

## 5.1 Introduction

Course of life is marked by various group memberships, some stable, some changing, some highly relevant, others less central, some chosen and some, inescapable. Some of the group memberships are inherent (e.g., gender) whereas others become relevant at a certain stage in life (e.g., post-doc). Group memberships are integrated into the individual's self-concept and affect attitudes towards social groups. It is a ubiquitous phenomenon that people have more positive attitudes towards groups they belong to (ingroup) than towards groups they do not belong to (outgroup). Group membership itself is a source of positive attitudes towards the ingroup. However, a positive attitude towards ingroups with a good reputation (the winning soccer Team A) is more justified than a positive attitude towards ingroups with a bad reputation (e.g., soccer Team B that has doped). Moreover, attitudes towards ingroups are in a massive transformation process. An ingroup with a good reputation may turn out not to be worthy of a positive attitude towards them since other information contradict their good reputation (e.g., the winning soccer Team A may turn out to have doped). Further, course of life involves transitions, some transitions are normative such as from student to post-doc, others are arbitrary transitions such as from soccer Team A to Team B. What is common about transitions is that they go along with a change in group membership. Since group membership is a source of preferences for the ingroup over the outgroup a change in membership could be related to a change in intergroup attitudes. Social psychological research is rather silent on how group membership contributes to the formation and change of intergroup attitudes.

Consider the following experience in a life course of a young soccer player who gets hired by Soccer Club A. First, she learns about the good reputation and earned respect of her novel team. But then, it turns out that in fact, this team does not deserve

the respect since the players took anabolic steroids before playing matches. The question is if the young soccer player's attitude towards Soccer Team A is formed and changed differently when she is a member of the team than when she is not member of the team. In other words the first question is whether attitudes towards social ingroups are more positive than attitudes towards groups one does not belong to even when clear positive or negative information about the groups is present. Second, will attitudes towards ingroups change similarly or differently than attitudes towards social groups one does not belong to when counterattitudinal information about the groups is present? Consider another experience in the life course of a young soccer player who got hired by Soccer Club B that neither has a good nor bad reputation. Given that the young player favors her Team B over Team C however, she is sold to Team C that likewise has no strong reputation. The question is if her preference will stick to her previous Team B or if she easily changes her attitude in favor of Team C when she becomes a member of it. In other words, the third question is if ingroup preferences change easily when people change their group membership. The present research aims to shed light on these questions by investigating the formation and change of attitudes towards ingroups. Taking research on the formation and change of attitudes towards social groups one does not belong to as a starting point, we investigate the formation and change of attitudes towards ingroups when the information given about groups changes. Then, we focus on the formation and change of intergroup attitudes when people change group membership. In the following introduction we first review theorizing on attitudes towards social groups, then we turn to specifics of attitudes towards ingroups, followed by theorizing on the formation and change of attitudes in general before we provide an overview of the present studies.

### **5.1.1 Attitudes towards Social Groups**

Although the study of forming and changing individual's attitudes towards social groups has a long history in social psychological research a new class of indirect measures spotlighted new aspects (cf. Petty, Fazio, & Briñol, 2009). In addition to traditional self-report measures assessing deliberate evaluations (explicit attitudes) researchers included indirect measures that are based on reaction times in order to assess spontaneous evaluations of social groups (implicit attitudes). Though implicit attitudes assessed with those indirect measures have been assumed to be traces of past experiences that need long-term experiences (cf. Greenwald & Banaji, 1995; Wilson et al., 2000), there is accumulating evidence that implicit attitudes can form very quickly (see Gawronski & Sritharan, 2010, for a review). Gregg et al. (2006)

invented novel social groups and presented narrative positive or negative valenced information about these groups. They have shown that narrative positive or negative information was sufficient to create matching positive or negative explicit and implicit attitudes towards the novel social groups. Concerning the malleability of recently formed implicit and explicit attitudes towards social groups, Gregg et al. (2006) found that counterattitudinal information readily changed explicit attitudes but did not change implicit attitudes towards the social groups. They concluded that “recently acquired automatic preferences resist attempts to undo them” (p. 14). Therewith, they provided evidence for the assumption that implicit attitudes are more resistant to change than explicit attitudes (cf. Petty et al., 2006; Rydell et al., 2007; Wilson et al., 2000). Thus, implicit and explicit attitudes appeared to diverge when people were confronted with counterattitudinal information.

### 5.1.2 Group Membership

Without doubt group membership affects attitudes towards social groups. Since the seminal studies by Tajfel and colleagues (e.g., Tajfel et al., 1971) many studies have shown consistently that categorization of individuals into novel social groups leads to ingroup favoring biases (see Brewer, 1979, for a review). More recent research has also demonstrated implicit preferences for ingroups immediately after categorization into a novel social group (e.g., Ashburn-Nardo et al., 2001; Otten & Wentura, 1999). According to social identity theory the individual must be aware of the membership and the group must hold some value connotations so that categorization results in group membership in a psychological sense. Thus, identification with a social category can clear the way for ingroup preferences (Tajfel, 1982). From a social identity perspective (Tajfel & Turner, 1979) social groups serve the basic human need for positive self-esteem. Therefore, people identified with a social group aim at distinguishing positively the ingroup from outgroups to serve their basic need for self-enhancement. However, another line of research suggests that novel ingroups profit from merely being linked to the self-concept (Cadinu & Rothbart, 1996; Krueger & Clement, 1996; Otten, 2003). Research by Walther et al. (2005) indicate that the self-concept can function as an unconditioned stimulus, such that objects that are connected with the self-concept automatically acquire the valence of the self-concept. Since most people have an overall positive evaluation of themselves (Baumeister, 1998; Bosson et al., 2000; Greenwald & Farnham, 2000) this self-related positivity automatically transfers to objects that are linked to the self-concept (cf. Gawronski et al., 2007). In Chapter 4 I demonstrated that mere group membership can lead to

such an associative self-anchoring process: When people identify with a novel social group and therefore link themselves with the group, their implicit self-evaluations spread over to this group resulting in implicit preferences for the ingroup. When no knowledge about the ingroup is available, that is, after mere categorization in unfamiliar or ill-defined groups, activated self-related associations also serve as a base for explicit intergroup attitudes thus for explicit ingroup preferences.

Beyond mere categorization into a novel social group, members of negatively stereotyped groups, though identifying with their ingroup, sometimes do not show implicit preferences for their ingroup, but rather implicit preferences for the outgroup (e.g., Blair, Judd, Havranek, & Steiner, 2010; Dasgupta, 2004; Olson, Fazio, & Han, 2009). We assume that members of groups with a bad reputation may have learned negative information about their ingroup that reflect in their implicit attitudes. Even though their positive self-concept is linked to that group, still the ingroup is mostly associated with negative valence. Yet, it is an open question how self-related positivity and acquired knowledge about social groups influence the formation of implicit and explicit attitudes towards social groups. In other words, how does group membership contribute to the formation of implicit and explicit attitudes towards social groups when positive or negative information about the group is present?

### **5.1.3 Group Membership in Transformation**

Information about ingroups can change quickly. With respect to our example; the soccer player who was recently hired by the Soccer Club A that won all of the season's matches will probably favor her novel ingroup. However, it may turn out that the team members actually doped and that the team does not deserve its good reputation. Even though the soccer player's initial attitude towards her novel ingroup was very positive, the counterattitudinal information might affect her attitude. The studies by Gregg et al. (2006) have shown that explicit attitudes towards groups one does not belong to change readily when counterattitudinal information is available, whereas implicit attitudes still reflect the initial information. Yet, it is an open question whether these findings can be extended to ingroups. This is one case of group membership in transformation: An ingroup believed to be positive obtains a negative reputation, or vice versa.

The second case of group membership in transformation is when people change their ingroups. Even though some group memberships are lifelong (e.g., gender, race), other group memberships can change frequently (e.g., from one university to another, or from one town of residence to another). Some of the changes in categorization are

chosen (e.g., becoming a researcher or a long-distance runner), others are integral to development (e.g., age group), and others are rather forced (e.g., change of working team, losing job). Based on the associative self-anchoring approach one would assume that social groups that are linked to the self-concept would readily be evaluated positively. In contrast, Gregg and colleagues' work (2006) suggests that implicit attitudes towards ingroups could resist change when group membership changes. The present work is concerned with the effect of a strong form of recategorization on intergroup attitudes, that is, categorization into the previous outgroup.

#### 5.1.4 Current Theorizing on the Formation and Change of Attitudes

The implementation of implicit attitude measures inspired theorizing that differentiates between implicit and explicit attitudes and that addresses their formation and change as well as their interplay. In contrast to models claiming that implicit attitudes stem from overlearned experiences and therefore form slowly and need extensive effort to change (e.g., Wilson et al., 2000, cf. 2.3.2), more recent models also account for findings on the ease of forming and changing implicit attitudes by various sources of valence (e.g., descriptive information, self-anchoring; see Gawronski & Sritharan, 2010, for a review). The currently most prominent models that address the distinct findings on the formation and change and thus the convergence and divergence of implicit and explicit attitudes are the associative-propositional evaluation model (APE, Gawronski & Bodenhausen, 2006; Gawronski et al., 2007, cf. 2.3.4) and the meta-cognitive model (MCM, Petty et al., 2007, cf. 2.3.3). Whereas the APE model postulates an interplay between associative and deliberate processes that distinctly influence implicit and explicit attitudes (cf. also Cunningham et al., 2007; Smith & DeCoster, 2000; Strack & Deutsch, 2004), the MCM is a model of attitude structure suggesting that evaluative associations go along with validity tags. Both models put a focus on validity processes; whereas the MCM assumes that validity can result from the confidence with which an attitude is held (attitude strength), the APE rather suggests that validity stems from a consistency analysis of the activated associations. Thus, the APE model suggests that implicit attitudes rely on the activated pattern of associations (associative processes) whereas explicit attitudes additionally rely on the validation of the activated associations (propositional processes). Therefore, explicit attitudes depend on the inference whether a person considers the activated associations to be true or false, whereas the implicit attitude reflects the whole set of activated associations. In contrast to models claiming that implicit attitudes can diverge from explicit attitudes because implicit attitudes are formed slower and are

more stable than explicit attitudes (e.g., Wilson et al., 2000), the APE model and the MCM specify conditions under which implicit and explicit attitudes are formed and changed in similar or different ways. Specifically, the APE model suggests that implicit and explicit attitudes converge unless the activated associations are invalidated by propositional validation processes. Therefore, when information implied by activated associations is inconsistent with other information it will be rejected by propositional processes resulting in divergent implicit and explicit attitudes. The MCM similarly assumes that implicit and explicit attitudes converge when all available information has the same evaluative implications whereas they diverge when a previous attitude is qualified by new information. Thus generally, the MCM and the APE model correspond concerning their assumptions and predictions on the convergence and divergence of implicit and explicit attitudes. Conceived in general terms, current attitude models hypothesize that implicit attitudes are based on associations whereas explicit attitudes additionally depend on the validation of the activated associations. Given that implicit attitudes assessed via indirect measures can be interpreted as a proxy for the relative strength of associations stored in memory, implicit attitudes form and change when associations form and change whereas explicit attitudes additionally can change when information invalidates the activated associations.

To summarize, recent attitude models have claimed that implicit attitudes form gradually based on overlearned experiences and are difficult to change. However, research has demonstrated that implicit attitudes towards novel social groups can form readily by descriptive information and by mere group membership. One study on the malleability of attitudes towards novel social groups provided evidence that implicit attitudes towards novel social groups are immutable. More recent theorizing suggests that implicit attitudes form and change when associations in memory are modified whereas explicit attitudes are hypothesized to change when activated associations are invalidated. This theorizing is taken as a base for the present research on the formation and change of attitudes towards social groups one belongs to.

### **5.1.5 The Present Research**

We conducted three experiments (Studies 3-5) to investigate how group membership and descriptive information given about social groups affect the formation and change of attitudes towards social groups. We aimed to avoid preexisting stereotypes or otherwise learned valences about the groups and retain entire control over the attitude induction process. Therefore, we investigated novel social groups that are introduced in the experimental procedure. We combined categorization paradigms and the basic

paradigm used in recent research on the formation and change of implicit and explicit attitudes towards novel social groups (Gregg et al., 2006).

Study 3 investigated the impact of group membership, in addition to clear positive or negative descriptive information, on the formation and change of implicit and explicit attitudes towards social groups. The design of the study allowed for examining the distinct effect of group membership and descriptive information on the formation and change of implicit and explicit attitudes towards social groups. Half of the participants were categorized into one of the target groups whereas the other half was categorized to a group that was not the target of evaluation. In line with previous research we assumed that when clear positive or negative descriptive information about the groups is given, implicit and explicit attitudes towards social groups one does not belong to would reflect the valence of the information (cf. Gregg et al., 2006). More importantly, we proposed that group membership leads to an associative transfer of self-related positivity to the ingroup resulting in a relatively more positive implicit attitude towards the ingroup (associative self-anchoring, cf. Chapter 4). Thus, implicit ingroup attitudes would profit from merely linking the novel social group to the self-concept, hence an entity that already possesses positive valence. With regard to explicit attitudes, drawing on current models of attitudes (e.g., Gawronski & Bodenhausen, 2006; Gawronski et al., 2007), we suggest that given clear positive or negative descriptive information about the social groups, self-related positivity would not be considered as valid informational base for explicit group judgements, thus we assumed that the explicit attitude would simply mirror the descriptive information. In terms of the young soccer player this means, that she would have implicit and explicit positive attitudes towards an outgroup Soccer Team A that has been very successful, whereas she would show negative implicit and explicit attitudes when the team doped. However, when the young player is a member of the Soccer Team A that has a good or bad reputation, positive self-related associations (i.e., that she is nice) will be activated and additionally be reflected in the implicit attitude towards her team. However, explicit group evaluations could be unaffected by group membership since given the clear positive or negative information about the groups, the self-related positivity would not be taken into account for explicit judgement of Team A.

Study 3 additionally investigated the malleability of attitudes towards ingroups that were first described with clear positive/negative information, but subsequently described with contrary information: Before implicit and explicit attitudes towards the target groups were assessed, half of the participants categorized into each group learned that the valences about the groups were actually reversed. In line with current attitude

models (e.g., Gawronski & Bodenhausen, 2006) we suggest that the implicit attitude would rely on all activated associations and therefore, reflect all parts of information; the original and the new information as well as self-related positivity. We assumed that the explicit attitude would reflect only the new information since the original information and the self-related positivity would be invalidated. Consequently, given counterattitudinal descriptive information, implicit and explicit attitudes towards the social groups would diverge since the implicit attitude would reflect all information whereas the explicit attitude would reflect only the information judged to be valid. In terms of the young soccer player this means that when she believed that the team she became a member of had a good reputation but then learned about the team's doping, her implicit attitude towards the team should still reflect self-related positivity, should reflect that the team was known to be good, and also the negativity brought by the doping information. At the same time, her explicit attitude would rely only on the valid information and would be negative.

A thorough picture of ingroup attitudes can only be obtained when the formation and change of implicit and explicit ingroup preferences that are merely brought by group membership are examined too. Therefore, Studies 4 and 5 investigated the malleability of ingroup preferences when individuals changed group membership. The question in terms of the young soccer player is, when she became member of Team B that neither has a good or bad reputation, and is sold to the rival Team C before playing any matches with Team B, will her initial positive attitude towards Team B easily change when she changes to Team C, a team that does not have any reputation, too? In line with the self-anchoring approach (cf. Chapter 4) we assumed that given no information about the groups apart from categorization, implicit and explicit ingroup preferences would easily take root. When people do not share any experiences with the ingroup and are recategorized into the previous outgroup (Study 4), we assumed that people would readily link their self-concept to the new ingroup (previous outgroup) providing the base for preferences for this group. However, given that once formed implicit attitudes towards social groups can sustain and influence subsequent intergroup attitudes (cf. Gregg et al., 2006), it is possible that implicit preferences for a previous ingroup may affect subsequent intergroup attitudes when individuals changed into the previous outgroup.

When the soccer player has played matches with Team B we suggest that she would have a positive attitude towards the Team B even when she is sold to Team C (Study 5). More precisely, we suggest that shared experiences with an ingroup strengthen the link between the self-concept and the ingroup. Thus, when people

share experiences with the first ingroup before they are recategorized into the new ingroup (previous outgroup), we assume that the previous ingroup is connected to the self-concept because of shared experiences and the new ingroup is connected to the self-concept because of the new categorization. Consequently, both groups would profit from self-related positivity. Thus, intergroup attitudes would change less readily.

## **5.2 Study 3**

The aim of Study 3 was to examine the impact of group membership in addition to positive or negative descriptive information on the formation and change of implicit and explicit attitudes towards novel social groups. Study 3 relied on the basic experimental procedure by Gregg and colleagues (2006) implementing novel social groups and providing clear positive or negative descriptive information about the groups. Then, the original descriptive information about the groups was either reversed or confirmed before implicit and explicit attitudes were assessed. Unlike Gregg et al., we assessed attitudes only after confirming or changing information to avoid that the stability of implicit attitudes artificially increases because of performing the same implicit attitude measure twice. Importantly, we extended Gregg et al.'s experiment by including a condition in which participants were categorized into the target group to investigate the impact of group membership on the formation and change of implicit and explicit attitudes towards novel social groups.

To investigate the effect of group membership, original information, and new information on implicit and explicit attitudes, half of the participants were categorized into one of the target groups whereas the other half was categorized into a group that was not the target of evaluation. All participants received descriptive information of the target groups that was either clearly positive or negative. Then, half of the participants categorized into the target group and half of the participants categorized into the other group learned that the valence about the groups was actually the other way around.

In line with Gregg and colleagues' (2006) findings we assumed that descriptive valenced information leads to matching implicit and explicit attitudes towards novel social groups. In Chapter 4 it was demonstrated that group membership can lead to an associative transfer of self-related positivity to the ingroup resulting in ingroup preferences. Drawing on contemporary attitude models (APE, Gawronski et al., 2007, cf. 2.3.4) we hypothesized that implicit attitudes rely on the activated pattern of associations whereas explicit attitudes depend on the inference whether a person

considers the activated associations to be valid. Given the associative nature of transferring self-related positivity to ingroups, we suggest that self-related positivity will be reflected in implicit intergroup attitudes even when descriptive information is available. In contrast, we assume that self-related positivity might be not considered as a valid base for explicit intergroup attitudes given clear valenced information. Consequently, group membership would add positive valence to ingroup evaluations that would be reflected exclusively in implicit group evaluations but no longer in explicit ones.

We assume that the same will be true for implicit and explicit attitudes after counterattitudinal information. Associations brought by the original information and by group membership will still affect implicit attitudes towards the groups even when counterattitudinal information is available. However, validation processes will invalidate the activated associations brought by the original information that has been revised and by group membership (cf. Gawronski et al., 2007; Petty et al., 2007). Thus, explicit attitudes will solely reflect the new information. In sum, implicit and explicit attitudes will diverge when descriptive valenced information in addition to group membership is present.

### **5.2.1 Method**

#### **Participants and Design**

We recruited 202 participants on university campus to participate in a study on “traits of different descent groups”. Participants were randomly assigned to a 2 (categorization into the target group vs. other social group) x 2 (positive vs. negative original information about the groups) x 2 (positive vs. negative new information about the groups) between-subjects factorial. Implicit group evaluations were assessed before explicit evaluations at the end of the procedure and were entered in the analysis as a within-subject factor. Twelve participants were excluded from the analysis since they indicated on the manipulation checks the wrong group membership ( $n = 1$ ) or did not correctly recall the valence of the groups ( $n = 11$ ). The remaining 190 participants were 18-37 years,  $M = 22.57$ ,  $SD = 2.92$ ; 133 female.

#### **Procedure & Materials**

The experimenter seated participants individually in a cubicle and started the computer-based experiment. The alleged aim of the study was to investigate characteristics of various descendant groups as well as their evaluation in today’s society. Participants

learned that on the base of a genetic-based method evolutionists have found that all Europeans origin from three ancient tribes (Nifities, Lupities, and Somities) and that the descendants still differ on genetically determined traits. Further, participants learned that they will be categorized to their descent group on the base of a valid test on their personal traits.

**Categorization (target group vs. other social group).** Participants indicated how much traits that were actually unrelated to the study (frank, interested, pensive, determined, conservative, spontaneous, close to nature, and freedom-loving), apply to them and got categorized according to the alleged result to the group “Lupities” or “Somities”. Since our dependent variables were implicit and explicit evaluations of “Lupities” and “Nifities” participants assigned to the “Lupities” evaluated their ingroup whereas those assigned to the “Somities” belonged to the group that was not target of evaluation (other social group).

**Original information about the groups (positive vs. negative).** In the condition “Nifities/positive and Lupities/negative”, participants read that the “Nifities” had been well-tempered, peaceful, benevolent, and civilized, whereas the “Lupities” had been egoistic, warlike, self-seeking, and barbaric. In the “Nifities/negative and Lupities/positive” condition the portrayals were reversed. In both conditions the “Somities” were described as a further ancient tribe with little available information.

Participants had to remember their group membership and the portrayals. In order to increase the salience of their group membership participants categorized traits (talented, natural, serious, humorous, multisided, fraught, frivolous, melancholy) to their own group or a different group by pressing “e” (“eigene” i.e., ingroup) and “a” (“andere” i.e., other group). Further, they indicated one or two personal traits that they believed to be due to their descendant group.

**New information about the groups (positive vs. negative).** The program stopped with the information that the following tasks will depend on participant’s group membership and that on the base of the following tasks a profile of each group will be generated and compared between groups. Then participants called the experimenter who asked participants’ group membership and the valence about the groups. The experimenter told them about a programming error and referred to a digit code on the computer screen in order to check if the programming error occurred. In the condition in which the new valences were opposite to the original valences the experimenter informed the participant that because of the error the portrayals about the Nifities and Lupities had been presented diametrically opposite. To ensure that participants grasped this claim, the experimenter stated the new valence

of the groups (“In fact, the Nifities/Lupities were egoistic and warlike whereas the Lupities/Nifities were the well-tempered and peaceful tribe.”). Then, the experimenter continued the program and participants redid the tasks to increase the salience of their group membership. In the condition in which the new valences about the groups were identical to the original valences, the experimenter also asked the participant’s group membership and the valence of the groups, compared them with the digit code, repeated the valence of the groups and continued the program. Participants in this condition also redid the tasks to increase the salience of their group membership.

In order to check if participants linked their novel group membership to their self-concept, identification with the ingroup was assessed with four items (i.e., cognitive identification, “I identify with descent group Lupities/Somities”, and evaluative identification, “I like being member of the descent group Lupities/Somities” that were averaged to form one scale,  $\alpha = .94$ ).

**Implicit attitudes.** Implicit evaluations of the “Nifities” relative to the “Lupities” were assessed using an Implicit Association Test (IAT, Greenwald et al., 1998). The IAT included a 12-trial Nifities – Lupities practice task, a 12-trial Negative – Positive practice task, a 72-trial Nifities/Negative – Lupities/Positive combined task, a 12-trial Positive – Negative practice task, and a 72-trial Nifities/Positive – Lupities/Negative combined task. Stimuli for the groups (Nifities and Lupities) were the male, female and plural version (cf. Steffens et al., 2008). Three stimulus words indicated the positive attribute category (*good, warm, peaceful*), three, the negative category (*bad, cold, warlike*). In the first combined task participants categorized “Nifities” and negative attributes on the same computer key (a) and “Lupities” and positive attributes with a different key (l). In the second combined task the attribute categories were reversed. Because we were interested in individual differences, IAT task order was held constant (cf. Egloff & Schmukle, 2002). Stimuli were presented in random order in the center of the screen with an intertrial interval of 150 ms. Category labels were displayed throughout in the left and right upper corner of the screen. Incorrect responses were denoted by a red X that remained on the screen until the correct response was made.

**Explicit attitudes.** The evaluative attributes used in the IAT were presented together with the group label “Nifities” or “Lupities”. Participants were asked to rate if in their opinion the attribute applied to the mentioned group. The ratings on negative and positive attributes for “Nifities” and “Lupities” were assessed separately. Their presentation was randomized. All ratings used a 7-point scale (1 = does not apply at all, 7 = applies completely). Finally, manipulation check items followed and demographic data were assessed before participants were thanked and debriefed.

### 5.2.2 Results

The IAT effect was computed similar to the IAT D effect (Greenwald et al., 2003) but no error penalty was added (cf. Steffens et al., 2008). Positive IAT effects indicate more positive implicit evaluations of “Lupities” than “Nifities”. Internal consistency based on IAT halves was  $\alpha = .77$ . Ratings on negative attributes were reverse coded; then mean ratings of “Nifities” were subtracted from mean ratings of “Lupities”. Again, positive scores indicate more positive evaluations of “Lupities” than “Nifities”. All explicit group evaluations revealed high internal consistency, “Lupities”:  $\alpha = .89$ ; “Nifities”:  $\alpha = .91$ .

As a precondition for the analysis, we examined whether participants identified with the groups they have been assigned to. Identification of participants depended on the final descriptive information about the groups, neutral ingroup (Somities),  $M = 3.90$ ,  $SD = 1.22$ ; positive ingroup,  $M = 5.13$ ,  $SD = 1.69$ ; negative ingroup,  $M = 2.86$ ,  $SD = 1.64$ ;  $F(1, 187) = 29.43$ ,  $p < .01$ ,  $r = .37$ , indicating that participants distanced themselves from the ingroup when it was described with negative traits and aligned themselves with the ingroup when it was described with positive traits. Though importantly for the present analysis, one-sample t-tests revealed that identification of participants assigned to either of the groups was clearly above 1, neutral ingroup,  $t(91) = 22.74$ ,  $p < .01$ ,  $r = .92$ ; positive ingroup,  $t(47) = 16.97$ ,  $p < .01$ ,  $r = .93$ ; negative ingroup,  $t(49) = 8.01$ ,  $p < .01$ ,  $r = .75$ . These results indicate that participants linked the novel group to their self-concept that allowed testing our main hypotheses. We expected that categorization, original information, and new information would distinctly affect implicit and explicit attitudes. These assumptions would show up in three two-way interactions; a two-way interaction of attitude (explicit, implicit) and categorization, a two-way interaction of attitude (explicit, implicit) and original information, and a two-way interaction of attitude (explicit, implicit) and new information. Disentangling the interactions would reveal a main effect of categorization, a main effect of original information, and a main effect of new information on implicit intergroup attitudes, revealing the impact of self-related positivity, original as well as new information on implicit attitudes. However, for explicit attitudes, we predicted only a main effect of new information since this would be the information suggested to be valid. To test the hypothesis we conducted a 2 (standardized attitude: explicit, implicit) x 2 (categorization to target group vs. other social group) x 2 (positive vs. negative original information) x 2 (positive vs. negative new information) mixed-model ANOVA, with the first factor being within subjects.

We observed the predicted two-way interactions, attitude (explicit, implicit) x

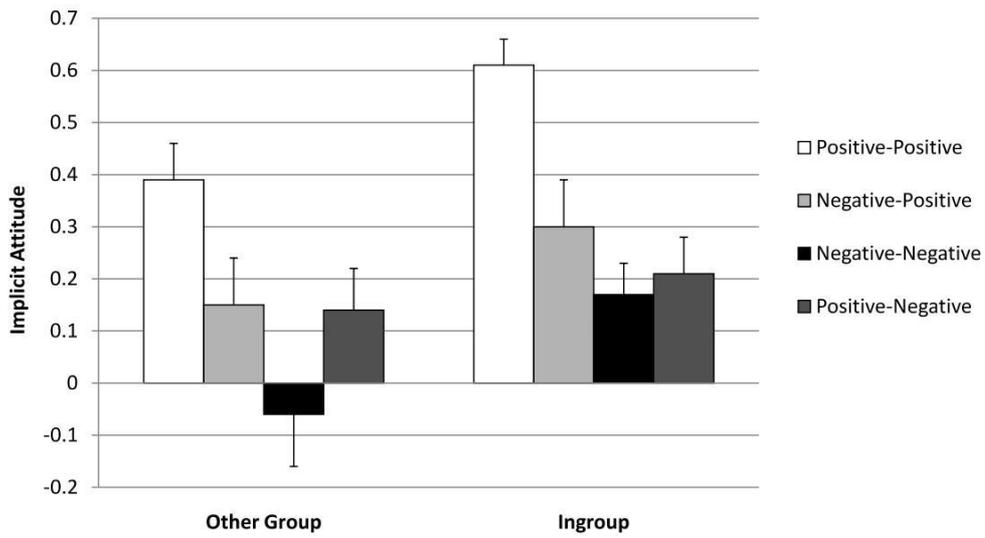
categorization,  $F(1, 182) = 6.11$ ,  $p = .01$ ,  $r = .18$ , attitude (explicit, implicit) x original information,  $F(1, 182) = 5.94$ ,  $p = .02$ ,  $r = .18$ , attitude (explicit, implicit) x new information,  $F(1, 182) = 35.11$ ,  $p < .01$ ,  $r = .40$ . All other interactions were not significant,  $F_s < 1.75$ . To break down the two-way interactions we conducted ANOVAs separately for implicit and explicit attitudes. Results are illustrated in Figure 5.1.

**Implicit attitudes.** The categorization x original information x new information ANOVA yielded the expected three main effects. First, there was a main effect of categorization,  $F(1, 182) = 9.33$ ,  $p < .01$ ,  $r = .22$ , revealing that implicit attitudes towards the groups were more positive when participants were member of the target group,  $M = 0.32$ ,  $SD = 0.37$ , than when they were not member,  $M = 0.16$ ,  $SD = 0.44$ . Also we found the expected main effect of original information,  $F(1, 181) = 13.22$ ,  $p < .01$ ,  $r = .26$ , indicating that implicit attitudes towards the groups were less positive when the original information was negative,  $M = 0.14$ ,  $SD = 0.41$ , than when the original information was positive,  $M = 0.34$ ,  $SD = 0.39$ . In addition, there was a main effect of new information,  $F(1, 182) = 21.00$ ,  $p < .01$ ,  $r = .32$ , demonstrating that implicit attitudes towards the groups were more positive when the new information was positive,  $M = 0.38$ ,  $SD = 0.38$ , than when the new information was negative,  $M = 0.12$ ,  $SD = 0.40$ . Thus as hypothesized, all activated associations brought by the original and by the new information about the target groups as well as self-related positivity activated by linking the self-concept to the target group affected implicit attitudes towards the groups.

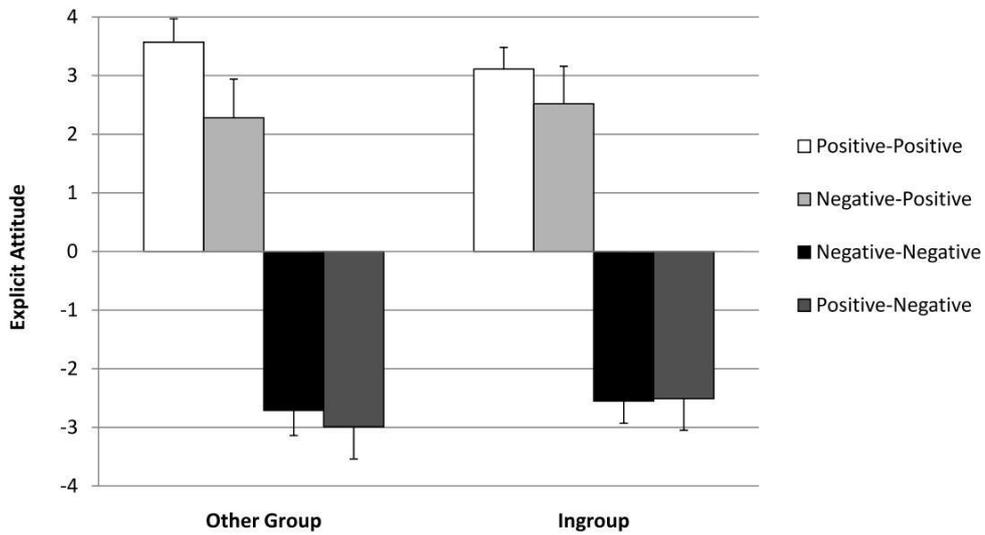
**Explicit attitudes.** In contrast to the implicit attitudes data, the categorization x original information x new information ANOVA on explicit attitudes towards the target groups revealed only a strong main effect of new information,  $F(1, 182) = 247.50$ ,  $p < .01$ ,  $r = .76$ , revealing that when the new information was positive, participants evaluated the target group more positive,  $M = 2.91$ ,  $SD = 2.48$ , than when the new information was negative,  $M = -2.69$ ,  $SD = 2.36$ , irrespectively of original information or group membership. Hence as hypothesized, exclusively the new information was taken into account for explicit judgments about the groups.

### 5.2.3 Discussion

Results of Study 3 are in line with the recent literature indicating that people rapidly form not only explicit but also implicit attitudes towards novel social groups based on descriptive information about the groups (cf. Gregg et al., 2006) and therefore, do not need overlearned experiences as assumed by some theorizing (cf. Devine,



(a)



(b)

**Figure 5.1:** Mean scores and standard errors for implicit attitudes (a) and explicit attitudes towards the target group (b, Study 3).

1989; Petty et al., 2006; Wilson et al., 2000). More importantly, our design allowed comparing attitudes towards ingroups with attitudes towards other social groups and therefore investigating the distinct effect of group membership on intergroup attitudes. In line with our predictions on self-anchoring as an associative process, we showed that even when clear positive or negative descriptive information about the target groups is available, implicit attitudes reflect a positive ingroup default brought by group membership. The present study indicates that self-related positive associations influence implicit attitudes towards novel ingroups without affecting explicit ingroup attitudes. This finding is in line with contemporary attitude models proposing that activated associations are directly reflected in implicit attitudes (e.g., Gawronski & Bodenhausen, 2006). Furthermore, group membership was not reflected in explicit attitudes, since the considered descriptive information eliminated the impact of the self-related positive associations on explicit attitudes. Moreover, the positive effect of group membership on implicit attitudes towards the target group appears to be less impactful than valenced descriptive information about the groups. The finding that descriptive information affects implicit ingroup attitudes over and above self-related positivity is in line with studies demonstrating that members of negatively stereotyped groups often do not show implicit ingroup preferences but their implicit attitudes reflect the negative reputation of their ingroup (cf. Blair et al., 2010; Dasgupta, 2004; Olson et al., 2009).

Regarding the malleability of implicit compared to explicit attitudes, results demonstrated that given counterattitudinal descriptive information, explicit attitudes solely reflected the new information. In contrast, implicit attitudes additionally mirrored associations formed by the original information about the groups. These results are in line with attitude models claiming that once formed, attitudes are not just replaced when counterattitudinal information is present (cf. Gregg et al., 2006; Devine, 1989; Petty et al., 2006; Wilson et al., 2000). It rather seems that new information forms additional associations resulting in a heterogeneous set of associations (cf. Rydell & Gawronski, 2009). Given that the previous and the new information were of opposite valence the resulting implicit attitude appears to reflect positive as well as negative valence; in terms of Petty and colleagues it reflects a state of implicit attitudinal ambivalence (Petty et al., 2007). However, the new information appears to have more impact than the revised original information. Thus, the present results extend the finding of Gregg and colleagues (2006) who claimed that implicit attitudes towards social groups resist attempts to undo them. Using a different design we avoided an artificial increase in the stability of implicit attitudes that would be due to performing

the same implicit attitude measure twice. Additionally, we used a larger sample. Our results demonstrate that counterattitudinal information does in fact have an influence not only on explicit but also on implicit intergroup attitudes. Even though implicit attitudes towards novel social groups once formed become activated despite of recently learned counterattitudinal facts, they are also sensible to the more recent information. The results showed that the impact of the originally learned valence is remarkably smaller than the impact of new information. Even though new information may not eradicate prior information, we conclude that counterattitudinal information can indeed change implicit intergroup attitudes.

Study 3 showed that implicit attitudes towards ingroups reflect all parts of information available, including self-related information, whereas explicit attitudes only mirror the information considered to be valid. Thus, group membership did not affect explicit attitudes towards ingroups when valenced information about the groups was present. This finding strengthened the assumption that ingroup preferences are to some extent based on an associative self-anchoring process: Positive self-related associations transfer to a novel group that became linked to the self-concept (Chapter 4). This conclusion is in line with a study by Gramzow and Gaertner (2005, Experiment 4) who demonstrated that higher self-esteem was related to more positive ingroup ratings, thus more positive explicit attitudes, when a novel ingroup was more positive than a novel outgroup and also when the ingroup was more negative than the outgroup. Specifically, participants in Gramzow and Gaertner's study read either 13 positive and 5 negative behaviors or 13 negative and 5 positive behaviors about the ingroup whereas in the present study the ingroup was unambiguously described with either positive or negative traits. Thus, Gramzow and Gaertner's results suggest that given a weaker manipulation of descriptive information about the groups, activated self-related positive associations are still reflected in explicit intergroup attitudes. However, given the present strong manipulation of valenced descriptive information, the associative transfer of self-related positivity to the ingroup was only reflected in implicit intergroup attitudes. Thus, the self-related positivity was invalidated by descriptive information about the novel ingroup.

Findings of Study 3 demonstrated that implicit intergroup attitudes that resulted from descriptive information about the novel groups change less completely than explicit intergroup attitudes when descriptive information about the groups is invalidated because original descriptive information—though invalidated—reflects on implicit attitudes. Yet, it is an open question if self-related implicit ingroup attitudes change readily when categorization into a social group is invalidated. When

no information about a novel ingroup is available, research consistently has shown that categorization not only leads to positive implicit but also to positive explicit attitudes towards ingroups (cf. Chapter 4; Billig & Tajfel, 1973; Gramzow & Gaertner, 2005). Studies 4 and 5 aimed at examining the malleability of the self-related positive implicit and explicit attitude towards the ingroup per se, that is, the malleability of implicit and explicit ingroup preferences when no further information is present. Study 4 investigated the malleability of ingroup preferences for novel ingroups when the information about group membership is revised, thus using a similar manipulation as Study 3. Study 5 examined the malleability of ingroup preferences while changing membership from the ingroup to the outgroup after some experience with the first ingroup.

### **5.3 Study 4**

The aim of Study 3 was to investigate the malleability of implicit and explicit intergroup attitudes when information about the groups—apart from the categorization information—is absent, that is, the malleability of self-related implicit and explicit ingroup preferences per se. To investigate the malleability of implicit and explicit ingroup preferences we adopted the procedure of Study 3 to change the information about group membership. First, participants were categorized into a novel social group and group membership was made salient. Then, half of the participants were informed about a programming error that resulted in categorization into the wrong group and participants learned that they are actually members of the previous outgroup.

Given that traces of past descriptive information affected implicit intergroup attitudes when descriptive information about the groups is reversed, one could imagine that the same will be true for self-related positive implicit attitudes towards ingroups. Consequently, recategorized individuals would show less implicit preferences for the new ingroup since the positivity of the previous ingroup (new outgroup) would still affect the implicit intergroup attitude. Alternatively, when the individual does not share any experiences with the previous ingroup and then learns that the categorization was actually by mistake, the link between the self-concept and the ingroup could be replaced by the new ingroup eradicating the associative transfer of positive valence to the previous ingroup. Definitely, learning that a previous categorization was by mistake will lead to positive explicit attitudes towards the new ingroup since any positive associations with the mistakenly assigned ingroup would be invalidated (“In fact, I am member of the current group, the first information I received about my

group membership was wrong”). Consequently, only positive valence with the new ingroup would be accepted as valid information for explicit attitudes.

### 5.3.1 Method

#### Participants

We recruited 109 participants on university campus to participate in a study on “mental flexibility of different social groups”. Participants were randomly assigned to a 2 (categorization figure vs. ground) x 2 (recategorization vs. control) between-subjects factorial. Again, implicit group evaluations were assessed before explicit evaluations at the end of the procedure and entered in the analysis as a within-subject factor. Four participants were excluded from the analysis since they indicated the wrong group membership on the manipulation check. The remaining 105 participants were 18-34 years,  $M = 21.74$ ,  $SD = 2.61$ ; 73 female.

#### Procedure & Materials

Participants were seated individually in a cubicle and the computer-based experiment was started. The alleged aim of the study was to investigate mental flexibility and first impressions. Participants learned that people differ in the way of processing information (figure or ground information processing style) which influences their first impressions. Further, they learned that based on a test, they will be assigned to their group of processing style and a task on their mental flexibility will follow before they will evaluate individuals.

**Categorization (“figure group” vs. “ground group”).** After a fixation cross, participants saw briefly an ambiguous picture (20 in total) and chose one of two answers indicating what they recognized first in the picture (e.g., a young or an old woman). Allegedly based on this test they were assigned to the “figure” or the “ground group” (cf. Otten & Wentura, 1999). Participants were asked to remember their group membership. In order to raise the salience of their group membership, participants categorized ostensible characteristics (e.g., Focus, “priority processing of information in the focus of the visual field”) to their own group or to the other group by pressing “e” or “a”. Further, participants learned that the following tasks depend on their group membership and that in the end the performance of both groups will be compared.

**Recategorization (recategorization vs. control).** This manipulation followed the manipulation of counterattitudinal information of Study 3 although the programming error referred to false feedback about group membership. The program stopped

and participants called the experimenter who asked participant's group membership. She compared the answer with a code on the computer screen. In the recategorization condition the experimenter concluded that a programming error occurred because the code said that the test clearly revealed that the participant is a member of the other group (i.e., participants first assigned to the "figure group" were informed that the test revealed that they are members of the "ground group", or vice versa). The experimenter apologized and explained that this is due to a programming error which had occurred before on that computer and affirmed that the test-result was correct but the indication of group membership was wrong. She asked the participant to remember the correct membership and informed that the program continues for the "ground (figure) group". In the control condition the experimenter also asked for participant's group membership, compared it with the code, affirmed it, and participants redid the task to increase the salience of their group membership.

Next, participants completed measures of implicit and explicit attitudes towards the groups. The IAT basically followed the IAT of Study 3, except that the three practice tasks contained 16 trials each and the two combined tasks 80 trials each. Further, stimuli for each group were two female and two male photographs (selected from Minear & Park, 2004) which we marked with G or F between the eyes, left or right to the nose or on the chin to indicate that these persons are members either of the "ground" or of the "figure group". All pictures were black and white frontal photographs of young people with neutral facial expression (cf. 4.2.1). Four stimulus words indicated the positive (*good, attractive, warm, intelligent*) and the negative category (*bad, repelling, cold, stupid*). In the first combined task (Ground Group/Positive – Figure Group/Negative), participants categorized photographs with a G and positive attributes on the same computer key (a) and photographs with a F and negative attributes with a different key (l). In the second combined task (Ground Group/Negative – Figure Group/Positive) the attribute categories were reversed. The assessment of explicit attitudes towards the groups, and identification with the new ingroup ( $\alpha = .82$ ) exactly followed the procedure of Study 3. Finally, a manipulation check item for group membership followed and demographic data were assessed before participants were thanked and debriefed.

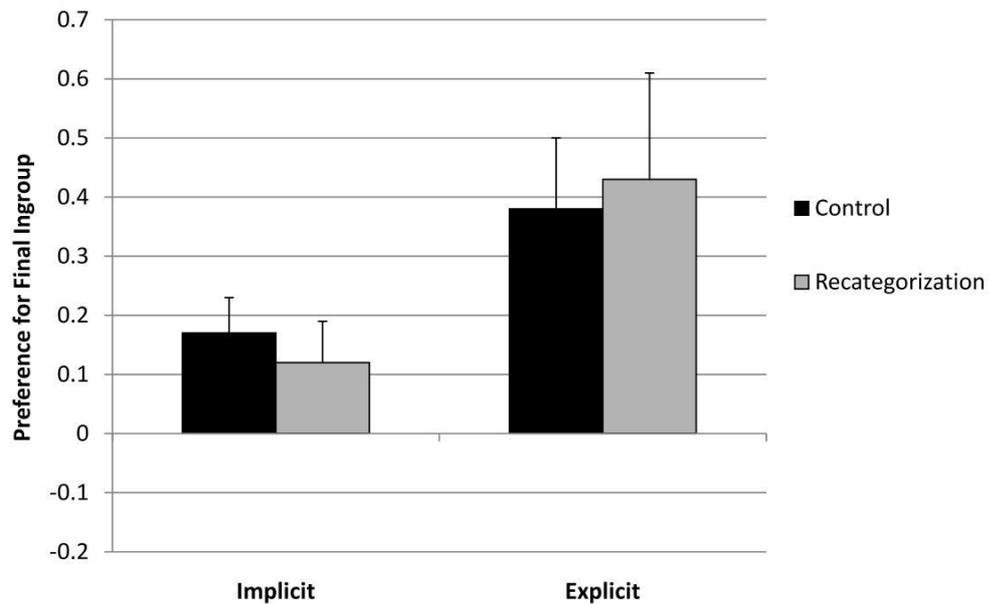
### **5.3.2 Results**

IAT effects were calculated like in Study 3,  $\alpha = .82$ . Ratings on negative attributes were reverse coded; then mean ratings of the new ingroup,  $\alpha = .78$ , were subtracted from mean ratings of the new outgroup,  $\alpha = .80$ . Positive IAT effects and positive

rating scores indicate more positive implicit and explicit attitudes towards the new ingroup compared to the new outgroup.

Identification of participants with their new ingroup was clearly above 1 in the control,  $M = 4.37$ ,  $SD = 1.27$ ; one sample t-test,  $t(52) = 19.24$ ,  $p < .01$ ,  $r = .94$ , and in the recategorization condition,  $M = 4.27$ ,  $SD = 1.04$ ; one sample t-test,  $t(51) = 22.81$ ,  $p < .01$ ,  $r = .95$ , indicating that participants readily linked the new ingroup to their self-concept even after recategorization. Additionally, we tested if categorization resulted in implicit and explicit ingroup preferences in participants in the control condition using one-sample t-tests. Participants in the control condition, that is, those who were categorized once, showed positive implicit,  $M = 0.17$ ,  $SD = 0.46$ ,  $t(52) = 2.63$ ,  $p = .01$ ,  $r = .34$ , and explicit attitudes towards their ingroup,  $M = 0.38$ ,  $SD = 0.85$ ,  $t(52) = 3.27$ ,  $p < .01$ ,  $r = .41$  thus, implicit and explicit ingroup preferences. Identification with the new ingroup and implicit and explicit ingroup preferences in the control condition allowed conducting the main analysis on the malleability of implicit and explicit ingroup preferences.

To examine the malleability of implicit and explicit ingroup preferences we conducted a 2 (categorization “figure group” vs. “ground group”) x 2 (recategorization vs. control) x 2 (standardized attitude: implicit, explicit) mixed-model ANOVA, with the latter factor being within subjects. This analysis would reveal a two-way interaction of attitude (implicit, explicit) and recategorization when previous group membership would affect implicit intergroup attitudes more than explicit attitudes. It would reveal a between-subject effect of recategorization when recategorization generally affects implicit and explicit intergroup attitudes. Though, results did neither reveal the interaction of attitude (implicit, explicit) and recategorization,  $F(1, 101) < 1$ ,  $p = .56$ ,  $r = .06$ , nor a between-subject effect of recategorization,  $F(1, 101) < 1$ ,  $p = .78$ ,  $r = .03$ . Thus, the observed null-effects show that we found no hints that implicit and explicit intergroup attitudes are differentially malleable or that previous group membership affects attitudes towards the new ingroup. In contrast implicit and explicit ingroup preferences after recategorization were similar to implicit and explicit ingroup preferences in the control condition (see Figure 5.2). Negligibly, analysis revealed that our measure of implicit attitudes was biased towards the “ground group” because all participants started the IAT with the “Ground Group/Positive – Figure Group/Negative” task. This showed up in a two-way interaction of recategorization (“figure group”, “ground group”) and attitude (implicit, explicit),  $F(1, 101) = 24.20$ ,  $p < .01$ ,  $r = .44$ . The categorization (figure, ground) x recategorization ANOVA on implicit intergroup attitudes confirmed that participants categorized to the “ground



**Figure 5.2:** Mean scores and standard errors for implicit and explicit preferences for the new ingroup, control: Participants categorized once, recategorization: Participants recategorized into the previous outgroup (Study 4).

group”,  $M = 0.44$ ,  $SD = 0.29$ , showed higher positive IAT effects than those categorized to the “figure group”,  $M = -0.14$ ,  $SD = 0.42$ ;  $F(1, 101) = 26.13$ ,  $p < .01$ ,  $r = .45$ . All other effects were not significant as well as the same ANOVA on explicit intergroup attitudes, all  $F_s \leq 1.30$ , affirming its methodological nature<sup>1</sup>.

### 5.3.3 Discussion

Replicating Study 3, results showed that implicit preferences for novel ingroups easily take root when individuals are categorized into a novel social group and link the novel group to their self-concept (also see Chapter 4). Corresponding to previous

<sup>1</sup>To ensure that participants did not have a priori preferences for a figure or ground information processing style, we post-tested 1) general evaluations of a ground and figure information processing style and 2) how much people liked to have a ground or a figure information processing style. People did neither show preferences for the figure nor the ground style, though a tendency to prefer the figure style [ratings 1 negative to 7 positive; evaluations of ground minus evaluations of figure style;  $M = -0.38$ ,  $SD = 1.86$ ;  $t(70) = -1.72$ ,  $p = .09$ ]. Further, people would neither prefer to have a ground nor a figure information processing style [ratings 1 not agree to 7 agree; liking to have a ground minus liking to have a figure style,  $M = -0.21$ ,  $SD = 2.50$ ;  $t(70) = -0.71$ ,  $p = .48$ ].

studies we also found explicit ingroup preferences after categorization (e.g., Tajfel et al., 1971) suggesting that in the absence of information and experiences with the ingroup, people use self-related information as a base for explicit intergroup attitudes (e.g., Chapter 4; Gramzow & Gaertner, 2005; Otten & Wentura, 1999). However, the major aim of Study 4 was to examine the malleability of these implicit and explicit ingroup preferences. When people were informed that the categorization was by mistake and that they, in fact, were no members of the group they were assigned to at first, participants readily identified with the new ingroup (previous outgroup) and formed implicit and explicit preferences for this new ingroup independently of previous categorization. These results demonstrate that explicit as well as implicit ingroup preferences change easily and in a converging way when people learn that they are in fact no members of a group they were categorized into. The results indicate that implicit ingroup preferences changed quickly because the link of the self-concept and the ingroup was replaced by the previous outgroup, so that self-related positivity immediately and exclusively transferred to the new ingroup (previous outgroup). Further, explicit preferences changed accordingly since participants had no rationale to reject the transfer of positive self-related associations to the new ingroup. This explanation is in line with Clement and Krueger's (2002) complementing findings who used a similar recategorization manipulation and demonstrated that participants projected their private judgments more strongly to their new ingroup than to their previous ingroup after they learned that they were miscategorized at first. Specifically, our results indicate that in addition to assimilating judgments of ingroup members to the self (Clement & Krueger, 2002), positive self-related valence is transferred to the new ingroup irrespectively of previous categorization.

Studies 3 and 4 used an equivalent manipulation of discounting previous information as wrong, specifically in Study 3 valenced descriptive information about a novel ingroup and in Study 4, about group membership. Results of both experiments indicate that implicit attitudes towards ingroups can change in response to novel information about the ingroup or in response to novel information about group membership. However, when implicit attitudes were formed by clear valenced information, the previous attitude left some traces, whereas self-related implicit preferences for an ingroup brought by mere group membership were apparently eradicated completely.

In Study 4 participants learned that the first categorization was wrong, thus it might have been easy for participants to replace the previous ingroup with the new ingroup and to link the new ingroup to their self-concept. However, in the social world, people share experiences with an ingroup before they change membership. To

get back to the example, the young soccer player who recently became member of the soccer club might have some soccer matches with this team before his contract terminates or before she is sold to the rival team. Shared experiences with an ingroup may strengthen the link between the self and the ingroup. In Study 5 participants worked on bogus group tasks before they had to change group membership. Again, we examined the effect of recategorization on implicit and explicit ingroup preferences.

## 5.4 Study 5

Study 5 examined the malleability of implicit and explicit ingroup preferences when people shared some experiences with the first ingroup before they were recategorized into the previous outgroup. Again no information about the groups was presented except from the information about membership. In Study 5 we investigated whether some common experiences with a novel ingroup already leaves traces hindering people to show implicit and explicit preference for a new ingroup that has been the previous outgroup. In order to establish a minimal sense of common experience, participants worked on bogus group performance tasks before they had to change from the ingroup to the previous outgroup before implicit and explicit intergroup attitudes were assessed.

In line with previous findings, we expected that implicit and explicit ingroup preferences easily take root after categorization (e.g., Chapter 4; Ashburn-Nardo et al., 2001; Tajfel et al., 1971). However, when a previous ingroup is linked to the self-concept and experiences strengthen this link, mere recategorization into the previous outgroup may not eradicate the link to the previous ingroup. The new ingroup may be linked to the self-concept in addition to the previous ingroup. Consequently, both groups may profit from self-related positivity resulting in less prominent implicit preferences for the new ingroup. Since no further information apart from the information of group membership is present self-related positivity related to the previous and to the new ingroup may be used as a valid base for explicit intergroup attitudes. Thus, resulting explicit preferences for the new ingroup may also be reduced after recategorization.

Since Studies 3 and 4 supported the predictions derived by associative self-anchoring (cf. Chapter 4), in Study 5 we tested if the self-concept indeed serves as a source of valence for intergroup attitudes. Therefore, we assessed implicit self-esteem before any reference to categorization was made and investigated implicit self-esteem as a predictor of implicit and explicit intergroup attitudes.

### 5.4.1 Method

#### Participants

We recruited 176 participants on university campus to participate in a study on mental flexibility and first impressions. Implicit self-esteem was assessed before participants were randomly assigned to a recategorization (categorized first into “group Z”, then recategorized into “group W”) or control condition (categorized once into “group W”). Again, implicit intergroup attitudes were assessed before explicit attitudes at the end of the procedure. First we examined if recategorization affects implicit and explicit intergroup attitudes when participants worked on an alleged group task before recategorization. Second, we compared the malleability of self-related implicit and explicit intergroup attitudes in detail entering implicit and explicit intergroup attitudes as a within-subject factor in the analysis. Two participants were excluded from the analysis since they indicated on at least one of the manipulation check items the wrong group membership. The remaining 174 participants were 18-37 years,  $M = 21.36$ ,  $SD = 2.88$ ; 121 female.

#### Procedure & Materials

**Implicit self-esteem.** Participants were seated individually in a cubicle and the experimenter started the computer based experiment. Participants’ implicit self-esteem was assessed via a self-esteem IAT (cf., Greenwald & Farnham, 2000). Procedural details and attributes for the positive and negative categories were identical to the group-evaluation IAT of Study 4. Other than in Study 4, the combined tasks of this self-esteem IAT consisted of 64 trials each (each stimulus was presented four times). Four stimuli (*I, me, mine, self*) indicated the category “self”, four stimuli (*those, whose, them, other*) the category “other”. This IAT results in an individual relative score of evaluation of self and others.

**Categorization (“group W” vs. “group Z”).** Then, participants learned from the computer based program that they will be assigned to one of two groups and that tasks will be presented to them depending on their group membership. After some seconds a textbox with “group W”/“group Z”<sup>2</sup> appeared on the screen indicating their group membership which they were asked to remember. Then, the program stopped and participants called the experimenter. The experimenter asked their group

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<sup>2</sup>We pre-tested the evaluations of letters and chose “Z” as the label for the first ingroup in the recategorization condition since it was liked similarly as the letter “W” [ratings 1 negative to 7 positive; evaluations of “Z” minus evaluations of “W”;  $M = -0.05$ ,  $SD = 1.99$ ;  $t(18) = 0.12$ ,  $p = .91$ ].

membership, wrote the group letter (W/Z) on a piece of paper and stuck it on the right lower corner of the PC-screen before she continued the program. A manipulation check item additionally asked the group membership. Participants learned that the study is concerned with first impressions and mental flexibility. The procedure to raise the salience of categorization followed Study 4; participants categorized ostensible characteristics to their own group or to the other group by pressing one of two different response keys. Since there was no relation between the presented characteristics and group membership all participants had to guess. Two performance tests followed ostensibly to compare the performance of both groups. In the first task seven sentences were shortly presented one after the other. Participants had to count the number of sentences with a correct statement (e.g., Copper is a metal. vs. Sheep hibernate.) and independently of content, they had to remember the last word of each sentence. In the second task nine symbols were presented together with a digit for 15 seconds and participants learned the combinations. Afterwards, they had to assign each symbol to the according digit. When the participant had finished the tasks, the alleged number of correct responses of both groups was presented on the screen (“group W”: 68.1%, “group Z”: 67.9%”).

**Recategorization (recategorization vs. control).** The program stopped, and participants called the experimenter who asked participant’s group membership. In order to preclude the observed method effect in the implicit intergroup attitude in Study 4 all participants were finally assigned to “group W”. In case the participant was assigned to “group Z”, the experimenter informed the participant that two participants in the other group (i.e. “group W”) had stopped the experiment. Further, she explained that an equal number of participants in both groups is again needed for the next tasks and the participant must change to the other group to continue with the tasks as a member of “group W”. The experimenter changed the former label towards a label with a “W” and asked the participant to remember being member of “group W”. In the control condition, where the participant was already in the first step assigned to “group W”, the experimenter informed participants similarly, but told them that they can continue performing the tasks as a member of “group W”. The experimenter left the room and participants continued with the program. On a manipulation check item, they typed in their membership (i.e., for all participants “group W”). Like in Studies 3 and 4 participants redid the task to raise the salience of their current group membership.

Next, measures assessing implicit and explicit intergroup attitudes exactly followed Study 4. The letter indicating the group membership on the photographs that were

used as stimuli in the IAT were replaced by “W” or “Z”. A manipulation check item on participants’ group membership followed before identification and demographical data were assessed and participants were debriefed and dismissed.

### 5.4.2 Results

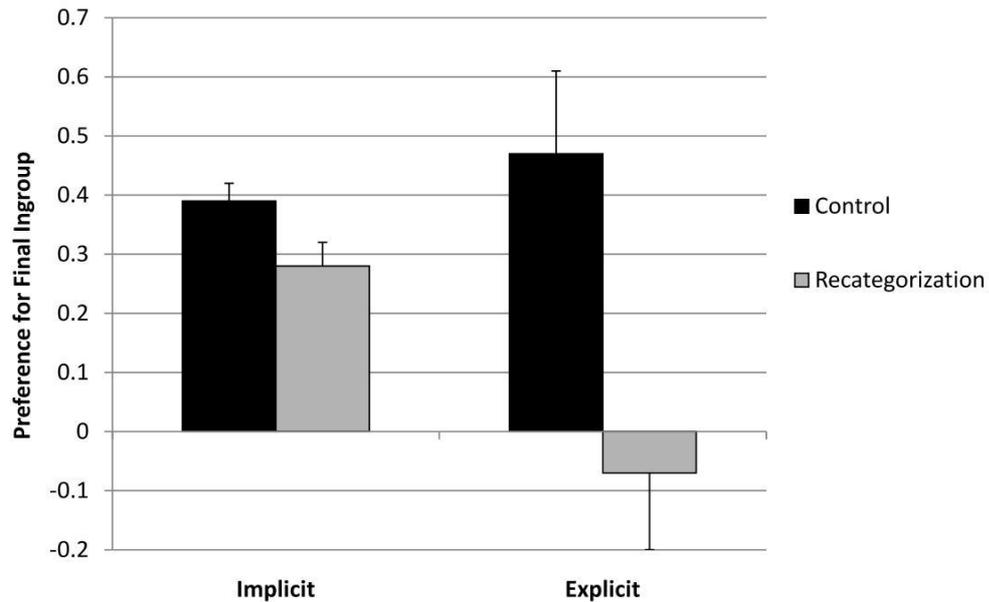
IAT effects were calculated like in Studies 3 and 4. Positive self-esteem IAT effects indicate more positive implicit attitudes towards the self compared to others,  $\alpha = .73$ . Positive group-evaluation IAT effects indicate more positive implicit attitudes towards the ingroup than the outgroup,  $\alpha = .65$ . Ratings on negative attributes were reverse coded; then mean ratings of the new ingroup (“group W”),  $\alpha = .91$ , were subtracted from mean ratings of the new outgroup,  $\alpha = .81$ . Again, positive rating scores indicate more positive explicit attitudes towards the new ingroup than the new outgroup.

Recategorization affected identification with the new ingroup,  $t(172) = 2.08$ ,  $p = .04$ ,  $r = .16$ , indicating that participants may still be identified to some extent with the previous ingroup. Importantly, one sample t-test revealed that identification of participants was clearly above 1 in both conditions; recategorization,  $M = 3.59$ ,  $SD = 1.51$ ,  $t(85) = 15.92$ ,  $p < .01$ ,  $r = .87$ ; control,  $M = 4.06$ ,  $SD = 1.46$ ,  $t(87) = 19.63$ ,  $p < .01$ ,  $r = .90$ . Additionally, participants in the control condition, showed implicit,  $M = 0.39$ ,  $SD = 0.29$ ,  $t(87) = 12.83$ ,  $p < .01$ ,  $r = .81$ , and explicit ingroup preferences,  $M = 0.47$ ,  $SD = 1.28$ ,  $t(87) = 3.44$ ,  $p < .01$ ,  $r = .35$ , allowing to conduct the main analysis on the malleability of implicit and explicit intergroup attitudes.

The malleability of intergroup attitudes was examined with a 2 (recategorization vs. control) x 2 (standardized attitude: implicit, explicit) mixed-model ANOVA. Analysis revealed the expected between-subject effect of recategorization,  $F(1, 172) = 11.01$ ,  $p < .01$ ,  $r = .25$ . To examine this effect in detail we conducted ANOVAs separately for implicit and explicit attitudes. Results are illustrated in Figure 5.3.

**Implicit attitudes.** The ANOVA with recategorization as independent variable demonstrated the expected effect of recategorization,  $F(1, 172) = 4.81$ ,  $p = .03$ ,  $r = .17$ , revealing that recategorized participant’s implicit attitude towards the new ingroup was less positive,  $M = 0.28$ ,  $SD = 0.37$ , than the implicit attitude of participants that were only categorized once,  $M = 0.39$ ,  $SD = 0.29$ .

**Explicit attitudes.** The same ANOVA on explicit intergroup attitudes also revealed the expected effect of recategorization,  $F(1, 172) = 8.13$ ,  $p < .01$ ,  $r = .21$ , revealing that the explicit attitude towards the new ingroup was less positive when participants were recategorized,  $M = -0.07$ ,  $SD = 1.22$ , than when they were



**Figure 5.3:** Mean scores and standard errors for implicit and explicit preferences for the new ingroup, control: Participants categorized once, recategorization: Participants recategorized into the previous outgroup (Study 5).

categorized once,  $M = 0.47$ ,  $SD = 1.28$ .

In addition, results replicated the finding of Study 4; there was no two-way interaction of attitude (implicit, explicit) and recategorization,  $F(1, 172) < 1$ ,  $p = .63$ ,  $r = .04$ , indicating no difference in the malleability of implicit and explicit intergroup attitudes when people were recategorized into the previous outgroup.

**Associative self-anchoring.** In order to test if self-related positivity was transferred to the ingroup resulting in implicit and explicit ingroup preferences, we conducted stepwise regression analysis on implicit and explicit intergroup attitudes including personal implicit self-esteem as predictor. Since participants in the categorization and recategorization condition differed in the degree of identification, we included identification and the recategorization factor additionally in the analysis. The continuous variables, implicit self-esteem and identification were standardized, the dichotomous recategorization variable was coded with 1, recategorization and 0, control. In the first step implicit self-esteem, identification, and recategorization were entered. In the second step the simple product terms, implicit self-esteem x identification, implicit self-esteem x recategorization, and identification x recategorization were entered before

in a third step the implicit self-esteem x identification x recategorization product term was entered.

The regression analysis on *implicit* intergroup attitudes revealed that the model including the single variables was significant accounting for 8% of the variance,  $F(3, 170) = 5.76, p < .01$ . Including the product terms did not significantly change the amount of variance explained. As expected the higher participant's implicit self-esteem the higher their implicit ingroup preferences,  $\beta = .25, p < .01$ . In addition, as already shown in the previous analysis, recategorization had a significant effect on implicit ingroup preferences; participants in the recategorization condition showed less implicit ingroup preferences than those in the control condition,  $\beta = -.17, p = .02$ . All other variables and interaction terms did not affect implicit intergroup attitudes significantly.

The regression analysis on *explicit* intergroup attitudes revealed that the model including the single variables and the simple product terms was significant accounting for 16% of the variance,  $F(3, 167) = 3.86, p = .01$ . Including the self-esteem x identification x recategorization-product term did not significantly change the amount of variance explained. As expected the higher participant's implicit self-esteem the higher their implicit ingroup preferences,  $\beta = .23, p = .04$ . In addition, both identification and recategorization had a significant main effect on implicit ingroup preferences that was qualified by their two-way interaction,  $\beta = -.27, p = .01$ , indicating that participant's identification was more positively related to explicit intergroup attitudes in the control condition, than in the recategorization condition. All other interaction terms were not significant.

### 5.4.3 Discussion

Not surprisingly, participants in the control condition thus, those who were categorized and shared the experience of performing two tasks, showed implicit and explicit preferences for the ingroup. More importantly, in line with the finding of Study 4, data of Study 5 showed no hint that implicit ingroup preferences after the change of group membership change less than explicit ingroup preferences. Specifically, Study 5 demonstrates that when people were recategorized, they showed less implicit and explicit preferences for the new ingroup compared to individuals who did not change membership. Simply working on two performance tasks in addition to categorization was sufficient to obtain that individual's implicit and explicit group preferences stick to some extent to their previous ingroup.

We assume that recategorization into the previous outgroup (new ingroup) links the new ingroup, in addition to the previous ingroup, to the self-concept, resulting

in positive valence of the new ingroup in addition to positive valence of the previous ingroup. Since no further information about the groups was present to invalidate self-related positivity, activated self-related associations served as a base for explicit intergroup attitudes. The finding that recategorized participants identified less with the new ingroup than participants who were categorized once suggests that the link of the self-concept and the previous ingroup was not replaced by the new ingroup (previous outgroup); rather it seems that the link of the self-concept and the previous ingroup persists and the new ingroup is additionally linked to the self-concept, resulting in a more complex associative network between the self, the previous, and the new ingroup. Thus, both the previous and the new ingroup profited from self-related positivity resulting in no clear implicit nor explicit preference for either of the groups.

The finding that implicit self-esteem predicted implicit and explicit ingroup preferences in participants who were categorized once and also in recategorized participants support our assumption that ingroups profit from self-related positivity. Thus, when a group is linked to the self-concept, the self-concept is used as an informational base for implicit and explicit intergroup attitudes. In addition to implicit self-esteem, group identification predicted explicit ingroup preferences though this relationship depended on recategorization. We assume that some identification is sufficient to clear the way for transferring self-related positivity to a new ingroup. However, a motivational process as described by the social identity approach (Tajfel & Turner, 1979) may account for the relationship between identification and explicit intergroup attitudes (cf. Foels, 2006).

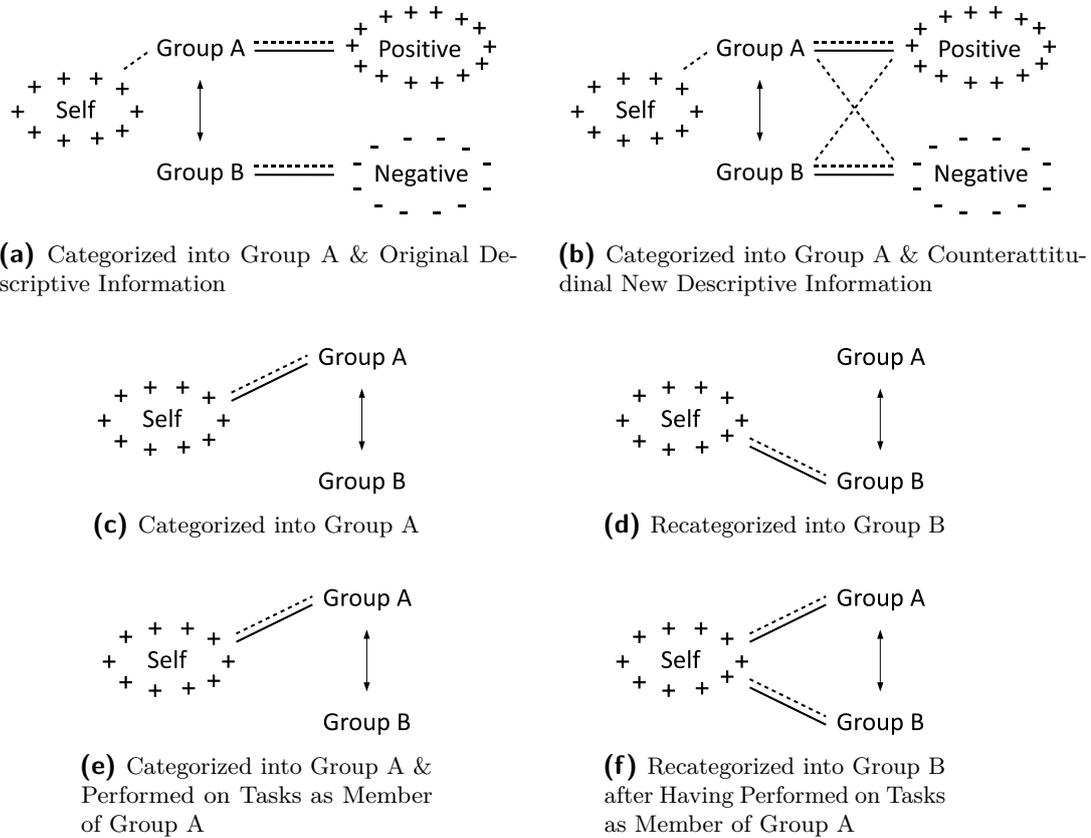
## **5.5 General Discussion**

The goal of the current series of experiments was examining the formation and change of implicit and explicit attitudes towards social groups that one belongs to. Whereas a considerable amount of research has focused on the malleability of attitudes towards outgroups (see Blair, 2002, for a review), the current work is the first to consider the malleability of attitudes towards ingroups. We investigated how descriptive information and self-related information brought by group membership influence the formation and change of implicit and explicit attitudes towards ingroups. Three experiments demonstrated that implicit attitudes towards ingroups form readily by descriptive valenced information as well as by mere categorization. More importantly, implicit attitudes towards ingroups can be highly flexible. They were influenced by counterattitudinal descriptive information and by the change of group membership,

even though prior attitudes were not necessarily eradicated (cf. Petty et al., 2006). Specifically, depending on attitude induction, implicit and explicit intergroup attitudes diverged or converged. Figure 5.4 summarizes the findings and assumed underlying processes graphically.

In Study 3 we demonstrated that few positive or negative descriptions of novel social groups immediately resulted in matching explicit and implicit attitudes towards both ingroups and other social groups. In addition, ingroups were generally evaluated more positively implicitly than the same groups not introduced as ingroups, demonstrating that group membership adds positive valence to the group's image (dashed line in Figure 5.4a). Yet, when the group descriptions were unequivocal in their valence, group membership did not play a role for explicit attitudes (cf. the solid line Figure 5a). When the valence of the descriptive information was changed, explicit attitudes towards novel social groups changed readily according to the new valence, and no trace of the original valence could be detected, both for ingroups and other social groups. Whereas implicit attitudes were also affected by the new valence, traces of the original valence remained both for ingroups and other social groups. Thus, changing attitudes that were formed on the base of valenced descriptive information about the groups resulted in diverging implicit and explicit intergroup attitudes. These findings are in line with current dual process models (e.g., Gawronski & Bodenhausen, 2006; Gawronski & LeBel, 2008); implicit attitudes reflected all activated associations—those based on the original information, the new information, and also those derived from self-related positivity— whereas explicit attitudes resulted from the information judged to be valid, that is, the new descriptive information (cf. Figure 5.4b). Overall, the patterns of attitude formation and change were the same for ingroups and other social groups when valenced descriptive information about the groups was presented. Specifically, group membership resulted in positive valence that was added to the implicit intergroup attitude, but it was not prominent in the explicit intergroup attitude given valenced descriptive information about the ingroup.

Given these results we suggest that members of socially disadvantaged groups often do not show implicit ingroup preferences (e.g., Blair, 2002; Dasgupta, 2004; Olson et al., 2009) because they learned predominantly negative information about their ingroup and positive information about the advantaged outgroup that is reflected in their associations between groups and valence. Even though the inclusion of the self due to group membership might add positive valence to implicit intergroup attitudes, this effect appears to be weaker than the associations brought by other valenced information. Thus, when Afro-Americans perform a Black-White-IAT, their overall



**Figure 5.4:** Summarized graphical illustration of the results of Studies 3-5. Arrows indicate that attitudes of Group A relative to Group B were assessed. Bases of information are represented with pluses and minuses indicating the valence derived from the present base. Dashed lines indicate the influence of the base on implicit attitudes. Continuous lines indicate the influence of the base on explicit attitudes. Participants were categorized into Group A and clear positive or negative descriptive information was presented (a, Study 3), then half of the participants received counterattitudinal descriptive information about Group A and B (b, Study 3). Participants were categorized into Group A and did a task that raised the salience of their group membership (c, Study 4). Half of the participants were informed about mistaken assignment, thus recategorized to Group B (d, Study 4). Participants were categorized into Group A and performed ostensible group tasks (e, Study 5). Half of the participants had to change to Group B (f, Study 5).

implicit attitude can be in favor for Whites due to the information they learned (cf. Nosek, Banaji, & Greenwald, 2002). However, when compared with implicit attitudes towards another disadvantaged group (e.g., Latinos), Afro-Americans show less implicit preferences for Whites on a Black-White-IAT than Latinos since Latinos only rely on the information learned about Blacks relative to Whites, lacking the positive component due to group membership (cf. Blair et al., 2010).

Study 3's finding that, ingroups were implicitly evaluated more positively than other social groups, demonstrates that group membership adds positive valence to attitudes towards ingroups. In Studies 4 and 5 we investigated the malleability of this positive ingroup default in the absence of positive or negative descriptive group information when group membership changed. In Study 4 participants were categorized into one of two novel social groups. After a task that raised the salience of their group membership, half of the members of each group were informed that group assignment was mistaken and thus they belonged to the previous outgroup. Results showed that individuals readily identified with the new group and that implicit ingroup preferences changed readily after recategorization. This finding demonstrates that merely linking one social group instead of another social group to the self can change the implicit intergroup attitude. Additionally, changing group membership also resulted in explicit preferences for the new ingroup. Hence, in the absence of valenced information about the ingroup, self-related positivity is used as a valid base for explicit intergroup attitudes. As a result, implicit and explicit attitudes towards social groups formed by mere self-inclusion converged when group membership changed and the self-concept was linked to the new ingroup (cf. Figure 5.4c and d). Importantly, when group membership is a fleeting phenomenon only the new ingroup profited from self-related positivity and the previous group membership did not leave any traces on intergroup attitudes.

Study 5 was similar to Study 4, except that participants shared the experiences of worked on two short ostensible group task before they had to change group membership. This intervention lowered identification with the new ingroup and it lowered implicit and explicit preferences for the new ingroup. Thus, traces of a former group history reflected on both, implicit and explicit intergroup attitudes. Again, implicit and explicit attitudes towards social groups formed by mere self-inclusion converged when group membership changed (Figure 5.4e and d). Further, as postulated Study 5 demonstrated that the higher individual's implicit self-esteem the more participants showed implicit and explicit ingroup preferences. Thus, Study 5 strengthened our suggestion that individuals use self-related positivity as a base for implicit attitudes

and also for explicit attitudes when information about the groups is absent. Thus, when intergroup attitudes are merely formed by self-anchoring (Chapter 4; Cadinu & Rothbart, 1996; Gramzow & Gaertner, 2005; Krueger & Clement, 1996; Otten, 2003), implicit and explicit intergroup attitudes converged when group membership changed. Specifically, Study 5 indicates that experiences with an ingroup strengthen the link between the self-concept and the ingroup. Consequently, implicit and explicit ingroup preferences stick to some extent to the previous ingroup, hence after changing group membership implicit and explicit preferences for the new ingroup relative to the previous ingroup were less prominent.

### **5.5.1 Implications for Attitude Models**

This research has important implications for existing models of attitudes and attitude change (Gawronski & Bodenhausen, 2007; Petty et al., 2007; Wilson et al., 2000). The results seem incompatible with models of attitudes assuming that implicit attitudes reflect overlearned experiences that are stored in memory and need extensive effort to be changed (e.g., Wilson et al., 2000). The present results rather provide evidence that implicit attitudes can be formed by various sources of information and can change readily. Specifically we demonstrated that implicit attitudes towards social groups can be formed readily by few pieces of descriptive information and by mere group membership (e.g., Ashburn-Nardo et al., 2001; Gregg et al., 2006). Further, we provide evidence that implicit attitudes towards ingroups can be influenced easily by counterattitudinal descriptive information as well as by recategorization.

The present results are consistent with contemporary theorizing on attitudes suggesting that implicit attitudes reflect activated associations irrespective of subjective truth or accuracy whereas explicit attitudes rely on the validation of the activated associations (Gawronski & Bodenhausen, 2007; Petty et al., 2007). Hence, implicit attitudes reflect all information about the attitude object whereas explicit attitudes solely reflect the information suggested to be valid. Given valenced descriptive information associative influences are not taken into account for explicit attitudes, still they are reflected in implicit attitudes. Thus, implicit and explicit intergroup attitudes diverge when the information implied by activated associations is inconsistent with additional information (cf. Study 3). Implicit and explicit intergroup attitudes converge when the activated associations are used as a valid base for explicit attitudes when no counterattitudinal information is present (cf. Studies 4 and 5).

Our results are further consistent with the claim that the relative malleability of explicit compared to implicit attitudes depends on the type of manipulation used to in-

fluence the attitude (Gawronski & Bodenhausen, 2007). Thus, descriptive information readily changed explicit attitudes and to lesser extent implicit attitudes. In contrast, passive associative transfer as a consequence of linking a novel social group to the self-concept—thus to an entity that is already connected to positive valence—readily changed implicit intergroup attitudes. However, we presented information either about the groups or about group membership, therefore our manipulation was consistently verbal in nature. Given the present findings on the malleability of attitudes towards ingroups, we propose that apart from the type of manipulation used to influence the attitudes, the malleability of explicit relative to implicit attitudes depends additionally on the source of information by which the initial attitude was formed (descriptive information vs. associative transfer). We suggest when an initial attitude resulted from descriptive information it will be overlearned by new descriptive information though traces of the previous attitude sustain (cf. Study 3; Gregg et al., 2006). However, when an attitude results from a passive associative transfer of valence as a consequence of linking a social group to an entity that is associated with valence, this attitude may easily be changed when the link is dissolved. Thus, changing the link can eradicate the positive transfer from the stored entity to the group (Study 4). Nevertheless, experiences appear to strengthen this link so that a social group can still profit from being integrated into the self-concept even when it is replaced (Study 5). Thus, attitudes can be formed by descriptive information and by linking the social group to the self. Based on the findings we assume that attitudes formed by associative self-anchoring are fluid constructions that are formed on the spot, whereas knowledge about social groups based on descriptive information reflects more stable representations of an attitude. Once stored, they are in part stable and additional information only adds more associations (Gregg et al., 2006; Petty et al., 2006; Rydell & Gawronski, 2009; Rydell & McConnell, 2006).

### 5.5.2 Practical Implications

Returning to the example of the young soccer player who got hired by Soccer Club A; the good reputation of her new Team A will be reflect in her positive explicit and implicit attitude towards Team A. However, she will implicitly favor Team A even more than another Team B that has an equally good reputation merely because of her membership that adds positive valence to the evaluation of Team A. When it turns out that Team A in fact not deserve the respect, her explicit and implicit attitude will change and she will rather favor the other Team B with the good reputation. Still, due to her membership and due to the knowledge about Team A's previously good

## *5 Formation and Change of Explicit and Implicit Attitudes towards Ingroups*

reputation, her implicit attitude will be less in disfavor than her explicit attitude that merely relies on the hard facts. Since diverging implicit and explicit attitudes may result in a state of ambivalence (Petty et al., 2007) the young soccer player might try to resolve the ambivalence by either trying to change the club or trying particularly hard to restore the club's reputation. Thus the change of information about ingroups may motivate behavior of social mobility or social change (Tajfel & Turner, 1979). Further, results indicate that the change of information about social groups does not eradicate an initially positive or negative attitude towards an ingroup, it rather modifies it even when the explicit attitude changes. Thus, it appears to be important to prevent wrong information about social groups since original information, even when reversed later, can still affect implicit attitudes and hence spontaneous behavior towards social groups (cf. Greenwald et al., 2009). However, when the aim is to change attitudes towards social groups the present results are more promising than Gregg and colleagues (2006) suggested; counterattitudinal information not only influenced explicit but also implicit intergroup attitudes. Thus, intervention strategies using descriptive information about social groups seem to have the potential to influence implicit intergroup attitudes.

To get back to the example; in case the young soccer player got hired by a Soccer Club B that neither has a very good nor a very bad reputation, she will quickly favor Team B due to her membership. She will change her attitude towards the team quickly when she is immediately sold to Club C. However, when she played some matches with Team B before she is sold to the rival team C, she will still like the previous Team B but additionally she will like her new Team C. Thus, whereas descriptive information about the club leaves traces on implicit attitudes without affecting explicit ones, changing membership leads to similar changes in explicit and implicit attitudes. Consequently, our results indicate that common experiences during the time of a group membership can lead to rather similar implicit and explicit evaluations of previous and new ingroups. Thus, changing group membership can positively contribute to the reduction of ingroup favoring bias and accordingly to more equality between in- and outgroup members. When group boundaries are permeable, changing group membership can help to reduce biases since former group memberships appear to reflect on current intergroup attitudes by reducing implicit and explicit ingroup preferences. Certainly people can hardly change their skin color or gender, but they can work in a low status job and they can live in another country for some time. Experiences as a member of a different social groups may be very useful to reduce ingroup favoring biases.

On the negative side, given that ingroup preferences are functional for individuals' self-esteem (Rubin & Hewstone, 1998; Turner, 1999) the change of group membership might negatively affect self-esteem. Recent studies suggest that the change of group membership that is inherent in normative transitions can negatively affect individual's well-being (Iyer, Jetten, Tsivrikos, Postmes, & Haslam, 2009). It is a challenge of future research to investigate how the change of group membership affects self-esteem as a source and an outcome of group membership and the interplay of self-esteem, identification, and intergroup attitudes.

### 5.5.3 Limitations and Prospects for Future Research

In the present studies we implemented IATs as a proxy for the underlying associations (e.g., Gregg et al., 2006; Ranganath, Smith, & Nosek, 2008; Rydell & McConnell, 2006). Notably, IATs like other indirect measures of implicit attitudes are not capable to assess purely associations (cf. Conrey et al., 2005). Importantly, IATs have been shown to be reliable, sensitive, and valid (cf. Blair et al., 2010; Nosek, Greenwald, & Banaji, 2007). Nevertheless, the present results on the malleability of implicit attitudes only refer to a change in the indirect measurement score due to different experimental manipulation. One can only speculate if the implicit attitude change is rather due to effortful control or to automaticity (cf. Conrey et al., 2005; Sherman et al., 2008). It is a challenge of future research to disentangle the different processes underlying implicit attitudes change assessed with indirect measures.

We investigated attitudes towards novel ingroups to avoid otherwise learned valences about the groups and to retain control over the attitude induction process. Our experiments provide insight into the interplay of different bases of information on the formation and change of intergroup attitudes and suggest that the attitude induction process is relevant for later malleability of the attitude. However, self-anchoring and descriptive information are only two among a variety of bases of information that affect implicit and explicit attitudes towards ingroups, such as social contact or long-term experiences. It is a fruitful prospect for future research to investigate additional informational bases and their interplay on the formation and change of implicit and explicit intergroup attitudes.

The present studies demonstrate that previous group membership can affect intergroup attitudes when people shared some experiences with the previous outgroup. Therewith, we provided evidence that group membership is not only a given fact at a certain point in time but previous group memberships can reflect on current intergroup attitudes. Particularly in modern societies people belong to various groups

(company, residence, status group, etc.) and they often change their group membership voluntarily or in a forced way. Changes of group membership further can go along with status gain and status loss. We investigated forced changes of group membership between groups of equal status and demonstrated that even forced changes can result in preferences for the new ingroup. However, we showed that previous group membership can leave traces when the previous ingroup remains integrated into the self-concept. Thus it is important for future research to take former group memberships into account in order to understand current intergroup attitudes.

## **5.6 Conclusion**

For a long time since the development of the new class of indirect measures social psychological research has focused on the formation and change of attitudes towards groups one does not belong to (Blair, 2002; Gregg et al., 2006). The present research investigated the influence of group membership on forming and changing intergroup attitudes. Results of three studies demonstrate that implicit attitudes towards ingroups are formed immediately and can be highly flexible with respect to the informational base that initially formed the attitude. Descriptive information forms and changes attitudes towards ingroups similarly as attitudes towards groups one does not belong to. Specifically, group membership creates a link between the group and the self-concept, and implicit self-evaluations associatively transfer to the ingroup. The resulting positive valence can be invalidated when the ingroup has a strong positive or negative reputation. Further, our results demonstrate that implicit intergroup attitudes do not resist attempts to undo them but offer a more optimistic perspective. Implicit biases can be modified with strong counterattitudinal information. However, the new information simply adds new associations, making the evaluative representation of the social group more complex (cf. Rydell & Gawronski, 2009). Further, changing group membership can completely eradicate initial positive attitudes towards a previous ingroup. In contrast, few experiences with a previous ingroup are sufficient to strengthen the link between the self-concept and the group and effect later intergroup attitudes. In sum, the present research demonstrates that group membership remarkably influences the formation and change of intergroup attitudes. We encourage future intergroup research to take current and previous group membership into account when investigating intergroup attitudes and relations.

# 6 General Discussion

## 6.1 Summary and Discussion of the Present Findings

Whereas, social psychological research mostly concentrated on the formation and change of attitudes towards social groups one does not belong to (Blair, 2002; Gregg et al., 2006), the present dissertation project focused on the influence of group membership on forming and changing intergroup attitudes. The first research line examined the minimal conditions of preferring ingroups over outgroups (intergroup bias) and investigated how readily people use self-evaluations for evaluating ingroups. To avoid that participants assume any similarity between themselves and members of their group, participants were assigned to their group on explicit random base. The findings of Studies 1 and 2 showed that neither explicit nor implicit ingroup preferences need similarities between the self and the group but can solely rely on categorization (cf. Billig & Tajfel, 1973). Importantly, I assumed an associative self-anchoring process to be at the base of ingroup preferences after mere categorization (Gawronski et al., 2007): Linking a group to the usually positive self (Baumeister, 1998; Greenwald & Farnham, 2000) leads to an associative transfer of self-evaluations to the group resulting in more favorable attitudes towards ingroups as compared to outgroups. Therefore, I investigated implicit personal self-esteem as a predictor for ingroup preferences (Study 2). As hypothesized results revealed that participants' implicit self-esteem predicted implicit ingroup preferences the more participants identified with the arbitrary ingroup. Thus, the self appears to serve as an unconditioned stimulus that adds positive valence to groups that are linked to the self-concept. Whereas, recent research on attitudes towards objects demonstrated that objects paired with the self for several times lead to an implicit preference for the target objects (Perkins, Forehand, & Greenwald, 2006; Prestwich, Perugini, Hurling, & Richetin, 2010), the present results indicate that mere self-categorization into a social group suffice for implicit preferences for an ingroup. It appears that merely linking a novel social group to the self is sufficient; ingroup preferences do not need several pairings of the self and the group. The associative self-anchoring mechanism (Gawronski et al., 2007) also can

## 6 *General Discussion*

account for explicit ingroup preferences. The present data demonstrated that implicit self-esteem can predict also explicit ingroup preferences in individuals identified with the group. In line with current models on attitudes (Gawronski & Bodenhausen, 2006; Petty et al., 2007), I conclude that self-related valence account for explicit intergroup attitudes when apart from self-inclusion no further information about the groups is available.

In sum, the results of the first research line suggest that implicit and explicit ingroup preferences do not need any similarity between the self and ingroup members but, ingroup preferences can result from a spontaneous, associative process. It appears that ingroup preferences do not necessarily require a motivational drive for self-enhancement. It rather seems that identification with a social category creates a link between the self and a social category that smooths the way for an associative transfer of self-related positivity to the arbitrary ingroup. Given no further information, self-related positive associations are also used as a base for explicit attitudes resulting in explicit ingroup preferences.

The second research line took the finding of associative self-anchoring and recent research on the formation and change of implicit and explicit attitudes towards novel social groups as a starting point (Gregg et al., 2006). The goal of this research line was to investigate how group membership influences the formation and change of implicit and explicit intergroup attitudes. Study 3 investigated the effect of group membership in addition to clear positive or negative descriptive information about the groups on the formation of implicit and explicit attitudes towards social groups and examined their malleability when contrary information was given. The design allowed to address directly the influence of group membership on the resulting implicit and explicit intergroup attitudes. In line with the findings of Gregg and colleagues (2006) I demonstrated that implicit attitudes towards novel social groups can form as quickly as explicit attitudes when people learn clear positive or negative information about both the ingroup and other social groups. Additionally, data revealed that people add positive valence when implicitly evaluating ingroups even when they acquired clear negative or positive information about the ingroup. This positive ingroup default did not show up in explicit intergroup evaluations. Given that implicit attitudes are a proxy for associations (Section 2.4), the finding of implicit ingroup bias in the presence of clear valenced information strengthens the claim that ingroup bias is partly based on a associative process. In the presence of clear information about the groups, ingroup bias was detected with indirect measures but not with self-report measures on attitudes. Further, Study 3 investigated the malleability of attitudes

## 6.1 Summary and Discussion of the Present Findings

towards ingroups when the information about the groups changed. In line with current theorizing I suggested that explicit attitudes would only rely on the information that a person considers to be valid in a situation. Therefore, the new information should solely affect explicit attitudes (Gawronski & Bodenhausen, 2006; Petty et al., 2007). Given the associative nature of implicit attitudes, I assumed that when information about the groups changed implicit attitudes would reflect all activated associations, those formed by the original information, the new information, and positive valence transferred from the self. Gregg and colleagues had shown that implicit attitudes towards novel social groups remained stable when information about the groups was changed (Gregg et al., 2006), I investigated this issue using a different research design to exclude an alternative explanation of measurement related learning effects which could be applied to Gregg and colleagues' findings. In line with the predictions, results revealed that implicit and explicit attitudes were influenced by counterattitudinal information about the groups. Specifically, explicit attitudes changed perfectly and did only reflect the new information. Implicit attitudes were also affected by the counterattitudinal information but they reflected additionally the original information and the self-related positivity. These results specify the conclusion by Gregg and colleagues that implicit attitudes towards social groups resist attempts to undo them. Based on the present findings, I conclude that implicit attitudes are malleable however, they reflect all activated associations thus also information that is invalidated by higher-order processes (Gawronski & Bodenhausen, 2006; Petty et al., 2007). These findings are more optimistic than the conclusion derived by Gregg et al. since they indicate that interventions trying to change negative attitudes towards social groups can be useful in changing not only explicit but also implicit attitudes. Even though, implicit attitudes may need a bigger amount of counterattitudinal information in order to be eradicated completely (cf. Rydell et al., 2007).

In order to derive a complete picture on the malleability of attitudes towards ingroups, I conducted Studies 4 and 5 on the malleability of implicit and explicit attitudes towards ingroups when no information about the groups apart from group membership was present. Therefore, I investigated the malleability of ingroup preferences per se when individuals changed group membership. This is an important issue since during a life course people frequently change their group membership. Little is known about how previous group memberships and therefore previous ingroup preferences, affect later intergroup attitudes. Study 4 used a similar manipulation like Study 3 specifically, participants learned that the original information about their group membership was wrong and that they are in fact members of the previous outgroup. On the one hand,

## 6 *General Discussion*

Studies 1 to 3 demonstrated that implicit ingroup preferences can form quickly by linking the self to the group. On the other hand, Study 3 demonstrated that original descriptive information reflected still in implicit intergroup attitudes when the valence of the information about the groups changed. From these states of research I derived at two opposing predictions. Given that categorization results in implicit and explicit ingroup preferences, recategorization into the previous outgroup could readily lead to preferences for the new ingroup (previous outgroup) when individuals link the new ingroup to their self-concept. Therefore, identification would smooth the way for an associative transfer of self-related positivity to the new ingroup (cf. Study 2) and preferences for the new ingroup would form irrespectively of previous group membership. Contrary, based on the findings of Study 3, implicit intergroup attitudes could still reflect preferences for the previous ingroup so that recategorized individuals would show less preferences for their final ingroup compared to individuals that were categorized only once. In Study 4 participants were categorized into one of two novel social groups. After a task that raised the salience of their group membership, half of the members of each group were informed that group assignment was mistaken and thus they belonged to the previous outgroup. Results revealed that participants readily identified with the new ingroup, readily formed implicit and explicit preferences for the new ingroup and no traces of former preferences for the previous ingroup were detected. It appeared that ingroup preferences, formed by mere group membership, changed completely whereas implicit attitude formed initially by descriptive valenced information about the groups left traces on intergroup attitudes. I conducted Study 5 in order to test if experiences with an ingroup can strengthen preferences for a previous ingroup. Study 5 was similar to Study 4, except that participants worked on an ostensible group task before they had to change group membership. This intervention lowered identification with the new ingroup (previous outgroup) and it lowered implicit and explicit preferences for the new ingroup. These results demonstrate that changing group membership after having shared the experience of working on a task, can already leave traces of former group preferences that reflect on both, implicit and explicit intergroup attitudes. The decline in identification with the new ingroup indicated that participants stuck to some extent to the previous ingroup. It appears that participants linked the previous ingroup to the self because of their common experiences and they linked the new ingroup to their self because of current categorization. Consequently, both groups profited from being linked to the usually positive self. Results demonstrating that implicit self-esteem predicted implicit and explicit preferences for the final ingroup supported this claim.

## 6.1 Summary and Discussion of the Present Findings

In sum, the two sets of studies suggest that not only explicit but also implicit attitudes towards ingroups can form readily by merely linking a novel social group to the usually positive self and by descriptive information about the groups. Further, implicit as well as explicit attitudes towards ingroups are highly malleable. Implicit and explicit attitudes towards ingroups changed when descriptive information about the groups has changed. Specifically, in addition to the new information about the groups, implicit attitudes still reflected the original information whereas explicit attitudes solely relied on the new information. When people changed group membership implicit and explicit ingroup preferences changed readily in favor for the new ingroup. Even though as little as working on a group task sufficed that people's ingroup preferences stuck to some extent to their previous ingroup.

These findings have important implications for theoretical approaches on the formation and change of attitudes. First, implicit and explicit ingroup preferences can be due to an associative process and do not necessarily need actively striving for positive self-esteem as suggested by the social identity theory (Tajfel & Turner, 1979). Therefore, the present results are in line with the self-anchoring approach (Cadinu & Rothbart, 1996; Krueger & Clement, 1996; Otten, 2003) and extent it the way that it seems to be based on an associative transfer of self-related positivity to groups that are linked to the self as suggested by Gawronski and colleagues (Gawronski et al., 2007). Results showed that people show an implicit ingroup default even when clear negative or positive knowledge about the social groups was acquired. Consequently, ingroups always seem to profit from self-inclusion even when there is no objective rationale for ingroup preferences. The findings on the malleability of attitudes towards ingroups provide evidence that implicit intergroup attitudes can be highly flexible depending on the base by which an initial attitude was formed. Intergroup attitudes formed by linking a social group to an entity towards which strong valence is stored in memory appear to be more flexible than attitudes that are formed by descriptive information (cf. Gregg et al., 2006). Whereas preferences for ingroups can be eradicated when the link between the self and the group is changed, counterattitudinal descriptive information about ingroups in addition to previous information only add further associations resulting in a more complex associative network of the social group and valence (e.g., Rydell & Gawronski, 2009). Even though the present studies provide useful insights and extent clearly existing research on the formation and change of attitudes towards social groups, there are some limitations that need to be considered. These limitations open up suggestions for future research.

## 6.2 Limitations and Prospects for Future Research

The present results on the malleability of intergroup attitudes revealed that the indirect measure indicated changes in implicit attitudes towards ingroups when counterattitudinal information about the social groups was presented and when group membership changed. However, some caution is required in drawing inferences about changes in the associative structure on the basis of IAT findings. As mentioned in the introduction (Section 2.4) the implemented indirect measure is rather a proxy for the underlying associations but it does not purely capture associations. Since the IAT, like other indirect measures too, relies on reaction times of pressing computer keys it cannot be understood as a direct translation of the underlying associative processes but, additionally reflects controlled processes. In order to separate distinct components on indirect measurement scores, formal process models have been developed. These, mostly multinomial models (cf. Batchelder & Riefer, 1999), describe unobserved processes as probabilities in order to create quantitative estimates of the distinct processes that influence the specific outcome on a reaction time task. Among these models the Quad-Model (Conrey et al., 2005; Sherman et al., 2008) has gained some attention. The Quad-Model operationalizes four components, two of them are types of control (ability to determine a correct response by the detection of the stimulus and regulation to press the right button even when associations are activated) and the other two are types of automaticity (automatic activation of an association and general response bias). All of them are assumed to influence the implicit attitude measured via IATs. The present results on the malleability of implicit attitudes only refer to a change in the indirect measurement score due to an experimental manipulation. One can only speculate if the implicit attitude change is rather due to effortful control or to automaticity (cf. Moors & De Houwer, 2006b). I suppose that the malleability of implicit attitudes as a consequence of counterattitudinal information increased the regulation to overcome the activated associations whereas the change of group membership automatically activated associations of the new ingroup and the self. It is a challenge of future research to analyze in detail the underlying processes of the malleability of implicit attitudes towards ingroups due to distinct types of manipulations.

The implementation of novel social groups in the present research is a mixed blessing. On the one hand, inventing novel social groups permits having entire control over the attitude induction process and to prevent previous experiences with the groups. Thus, using novel social groups and experimental manipulations of categorization and

## 6.2 *Limitations and Prospects for Future Research*

information about the groups provided a controlled setting from which mostly causal conclusions can be drawn. On the other hand, using artificially created groups raise the question of external validity of the present findings. I suggest that the demonstrated process of associative self-anchoring is a starting point of ingroup preferences. This source of ingroup preferences appears to be an associative process inherent in social categorization of the self. Given the finding that people who acquired positive or negative knowledge about groups also showed an implicit default in favor for the ingroup, suggests that self-anchoring is an inherent process of social categorization.

Definitely, attitudes towards existing ingroups are multidetermined. Thus, self-anchoring and descriptive information on which I focused in the present research, are two among other bases that influence the formation of attitudes towards ingroups (cf. Gawronski & Sritharan, 2010). Multiple information about ingroups may result in a complex associative network of the ingroup and valence (cf. Rydell & Gawronski, 2009). Additionally, newly formed attitudes may be distinct from attitudes towards existing groups that have been hold over a long period of time and that have been overlearned by various information about the ingroup. These attitudes may less depend on recently acquired information. From this perspective two suggestions of future research can be derived. First, it is fruitful to investigate the influence and interplay of further kinds of information (e.g., duration of group membership, social norms, contact, long-term experiences) on the formation of attitudes towards ingroups. Second, further research should address how manipulations of distinct kinds of information (e.g., duration of group membership, shared experiences) affect the resulting attitudes towards the ingroup.

The present studies on recategorization focused on forced changes of group membership between groups of equal status. Though, in society changes of group membership can be chosen, forced, or inherent in the course of life. Additionally, ingroups and outgroups often differ in status and power. Most changes of group membership either go along with a status and power loss or gain. Meta-analytic examinations on explicit ingroup attitudes revealed that members of high status groups mostly show more explicit ingroup preferences than members of low status groups (Mullen et al., 1992). Bettencourt and colleagues (Bettencourt, Charlton, Dorr, & Hume, 2001) specified that differences in explicit ingroup preferences between low and high status groups additionally depend on sociostructural variables as identified by social identity theory (Tajfel & Turner, 1979), namely stability of status, legitimacy of status, and permeability of group boundaries. Until now a precise analysis of the condition for implicit ingroup preferences of members of low vs. high status groups is missing. Additionally,

systematic investigating the effects of distinct types of changing group membership (i.e., forced and chosen changes between groups of different status and power) on identification and intergroup attitudes and their interplay with self-esteem will be fruitful for deeper understanding why and when people in a social world in which group boundaries are permeable change their intergroup attitudes. In sum, I believe that studying the effects of group membership on individuals' intergroup attitudes is a fruitful approach for theorizing on intergroup relations as well as for current models on attitude change. In my opinion, systematically investigating the effects of former group memberships on current identities and intergroup attitudes and their interplay with self-esteem is a fascinating and important challenge for future research.

### 6.3 Conclusion

Elucidating the influence of current and previous group memberships on implicit and explicit intergroup attitudes is extremely important for advancing the field of intergroup relations. Additionally, theorizing on the formation and change of attitudes in general can profit from the investigation of intergroup attitudes. The present research suggests that implicit preferences for ingroups easily take root even when 1. similarity between ingroup members is absent, 2. when clear positive or negative information about the ingroup is present, and 3. when individuals are categorized into the previous outgroup. It appears to be an associative transfer of self-related positivity to the self-including category that results in implicit preferences for novel ingroups. This self-related positivity is also used as a base for explicit intergroup attitudes when descriptive information about the groups is absent. However, when additional descriptive information about the ingroup is present, explicit attitudes reflect the information learned about the groups. Concerning the malleability of attitudes towards ingroups, the present studies suggest that implicit attitudes towards ingroups can change readily according to counterattitudinal information. Although in addition to the new information, implicit attitudes towards ingroups reflect the original information and positive valence brought by group membership. Consequently implicit and explicit attitudes towards ingroups diverge when clear information about the ingroup is present. Implicit and explicit ingroup preferences can form and change quickly and they converge when group membership is fleeting. Though, little experiences with a previous ingroup, such as working on a group task, appear to strengthen the link between the self and a previous ingroup. Thus, previous ingroups can be still evaluated positively even when people changed into the previous outgroup.

In sum, attitudes towards ingroups measured with indirect measures based on reaction times can form and change readily. Though previously learned information about ingroups as well as previous group memberships can influence subsequent intergroup attitudes. I suggest that in order to gain a comprehensive picture on why and when intergroup attitudes change, theorizing on intergroup attitudes must consider the base of information by which the initial attitude is formed, the type of manipulation by which the attitude is changed, as well as the function of the attitude for the individual. Beyond mere categorization into novel social groups, group membership is highly functional for the individual since it defines the individual's social identity (Tajfel & Turner, 1979). Apart from current group membership, social groups we have been member of and with which we have shared experiences at a certain time in life appear to carry on a positive connotation. Current intergroup research mostly neglected that people have a past group history and mostly investigates group memberships as given facts. The present work suggests that past group histories influence current intergroup attitudes. Thus in a social world in which social change is omnipresent and in which group boundaries become increasingly permeable, taking previous and current group memberships into account can help better understanding intergroup attitudes and behavior.



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# Appendix



# A Scales and Material

## A.1 Identification with the Ingroup (Studies 1- 5)

Items Used	English Translation
Ich identifiziere mich mit [Eigengruppe].	I identify with [ingroup].
Ich sehe mich selbst als Mitglied der [Eigengruppe].	I see myself as a member of [ingroup].
Ich bin gerne Mitglied der [Eigengruppe].	I like being member of [ingroup].
Ich bin froh, dass ich der [Eigengruppe] angehöre.	I am glad to be a member of [ingroup]. (Studies 3 and 5 only)
Ich fühle mich mit den Mitgliedern der [Eigengruppe] verbunden.	I feel a bond with the members of [ingroup]. (Studies 1, 2, and 4 only)

## **A.2 Photographs Used as Stimuli in the IAT (Studies 1, 2, 4, and 5)**



**Figure A.1:** Photographs used as stimuli in the IAT (Studies 1, 2, 4, and 5). Letters indicating the group membership were adjusted according to the group labels in each study.



# Lebenslauf

Geburtsdatum: 14/12/1978  
Geburtsort: Halle/S.  
Nationalität: deutsch

## **Ausbildung**

07/2007 - 07/2010 Promotionsstipendium, International Graduate College  
“Conflict and Cooperation between Social Groups”,  
Friedrich-Schiller-Universität, Jena

10/1998 - 10/2006 Studium der Psychologie, Friedrich-Schiller-Universität, Jena  
2006 Diplom, Dipl.-Psych., Friedrich-Schiller-Universität, Jena

07/1991 - 07/1998 Gymnasium, Robert-Koch-Schule, Clausthal-Zellerfeld  
1998 Abitur

02/1990 - 07/1991 Orientierungsstufe, Badenhausen

07/1985 - 02/1990 Politechnische Oberschule, Friedrich-Engels-Oberschule,  
Halle/S.

## **Berufliche Tätigkeit**

04/2007 - 07/2007 Wissenschaftliche Mitarbeiterin, Institut für Psychologie,  
Fachbereich für Biologische und Klinische Psychologie,  
Friedrich-Schiller-Universität, Jena

11/2006 - 12/2006 Wissenschaftliche Mitarbeiterin, Institut für Psychologie,  
Fachbereich für Biologische und Klinische Psychologie,  
Friedrich-Schiller-Universität, Jena



# Ehrenwörtliche Erklärung

Hiermit erkläre ich, dass mir die Promotionsordnung der Fakultät für Sozial- und Verhaltenswissenschaften an der Friedrich-Schiller-Universität Jena bekannt ist. Weiterhin erkläre ich, dass ich die vorliegende Dissertation selbst und ohne unzulässige Hilfe Dritter angefertigt habe. Weder bei der Herstellung des Manuskriptes noch bei der Auswahl oder der Auswertung des Materials waren weitere Personen beteiligt. Alle benutzten Hilfsmittel und Quellen sind in der Arbeit angegeben. Ich habe weder die Hilfe eines Promotionsberaters in Anspruch genommen, noch haben Dritte unmittelbar oder mittelbar geldwerte Leistungen von mir für Arbeiten erhalten, die im Zusammenhang mit dem Inhalt der Dissertation stehen. Die Arbeit wurde weder im In- noch im Ausland in gleicher oder ähnlicher Form einer anderen Prüfungsbehörde vorgelegt. Ich habe weder früher noch gegenwärtig an einer anderen Hochschule eine Dissertation eingereicht.

Ich versichere, dass ich nach bestem Wissen und Gewissen die Wahrheit wiedergegeben habe und nichts verschwiegen habe.

Jena, den 16. August 2010

Jenny Roth