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Newcomers to Social Categories: Longitudinal Predictors and Consequences of Ingroup Identification

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Abstract

In the present article, we propose a dynamic model of the longitudinal predictors and consequences of ingroup identification among newcomers to a social category. We hypothesize a shift in the relative importance of intragroup affiliation as compared with intergroup differentiation for ingroup identification. Two longitudinal studies confirm the theoretical model assessing cross-sectional and longitudinal relationships between ingroup identification and interpersonal attraction, self-prototypicality, and ingroup favoritism at three measurement points during the first 4 months of group membership in two different social categories. Results demonstrate that in the initial phases of group membership, ingroup identification is mainly determined by intragroup affiliation (interpersonal attraction) and that ingroup favoritism starts playing a relevant role later on, when category membership has been established.

Keywords

ingroup identification, interpersonal attraction, self-prototypicality, ingroup favoritism, newcomers

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During a lifetime, people join many groups, such as new organizations, schools, or neighborhoods. For newcomers, an important goal is to socialize and connect with other group members. Successful socialization at the beginning of group membership is an important prerequisite for well-being and group functioning later on (Levine & Moreland, 1994). Thus, during group socialization, newcomers' main priority is to attain and maintain a strong sense of psychological connectedness with their new ingroup (Worchel, 1998). Such ingroup identification marks newcomers' transformation from individuals to ingroup members (Guimond, 2000) through a process of learning shared group norms, values, and behaviors and gradually integrating these into the self-concept (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987).

Insight in how newcomers gradually integrate a social identity into their self-concept is scarce; most research on ingroup identification has taken a static approach to understand how "low" or "high" identifiers act or react in response to in(ter)group concerns. Nevertheless, in recent years, the number of studies taking a longitudinal perspective on social identity processes has increased. For example, scholars have started to provide evidence for variations in identification levels over time (e.g., Jetten, Iyer, Tsivrikos, & Young, 2008) and demonstrated how such time variations in identification may be explained by motivational and cognitive mechanisms (Amiot, Terry, Wirawan, & Grice, 2010; Easterbrook & Vignoles, 2012; van Veelen, Hansen, & Otten, 2014). The present article adds to this work by focusing on longitudinal changes in the relevance of intra- versus intergroup processes for ingroup identification among newcomers joining a larger social category. Specifically, we investigate how ingroup identification dynamically emerges over time and how processes "within" the group and "between-groups" fuel its development.

Early research taking a longitudinal perspective on social identity development mainly dealt with small group formation (Tuckman, 1965) and the inclusion of new members in small teams (Levine & Moreland, 1994). Here, the role of seeking interpersonal connectedness was seen as a crucial part of successful socialization. In contrast to smaller social networks (i.e., common bonds), in larger social categories (i.e., common identities), interpersonal connectedness and

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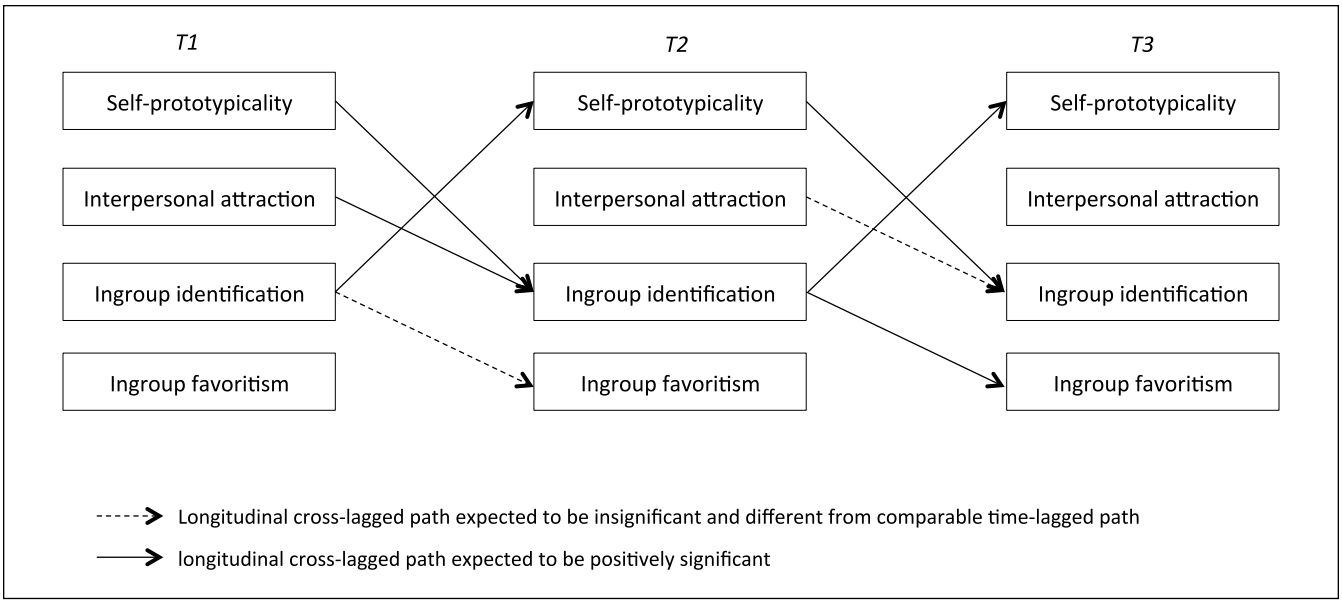

Figure 1. Proposed model depicting the longitudinal relationships over time (cross-sectional relationships are specified in the text).
Note. T = time.

behavioral interactions are often seen as less relevant. Instead, stereotypes, group homogeneity, and self-prototypicality are considered important (Deaux & Martin, 2003; Serpe & Stryker, 2011). The present research aim to demonstrate that also in larger social categories, interpersonal relations may form a relevant constituent of social identity development (Eisenbeiss & Otten, 2008; Smith & Postmes, 2011). In addition, newcomers' identification implies the cognitive integration of ingroup prototypes into the self-concept over time (Deaux & Martin, 2003; van Veelen et al., 2014). Finally, new group members' identification is generally accompanied by the emergence of positive differentiation between "us" relative to "them" (Tajfel & Turner, 1979).

The goal of this article is to study how these three social identity elements, namely, (a) interpersonal attraction, (b) self-prototypicality, and (c) ingroup favoritism uniquely relate to newcomers' development of ingroup identification with a new social category. To do so, we focus on first-year students' development of ingroup identification during their first months at university and investigate the *changes in the longitudinal relationships* between the three social identity elements across three time points (see Figure 1). We propose that social identities emerge through a process in which, intra- and intergroup concerns dynamically interact with ingroup identification over time.

Elements of Identity Formation

Drawing on social identity theory (SIT; Tajfel & Turner, 1979), self-categorization theory (SCT; Turner et al., 1987), and optimal distinctiveness theory (ODT; Brewer, 1991), we define the key elements that underlie people's formation of a social identity. Following ODT, social identity formation is driven by two fundamental human needs—the need to belong (satisfied by group inclusion and intragroup attraction) and the need to be distinct (satisfied by positively evaluating and contrasting the ingroup from relevant outgroups). In addition, SIT argues that people's need for a positive self-image (Rubin & Hewstone, 1998) drives the formation of social identities, through the positive evaluation of ingroups relative to outgroups (Abrams & Hogg, 1988), and the cognitive categorization of the self as an ingroup member (Turner et al., 1987). Together, these theories inform us that ingroup identification is grounded in both intra- and intergroup processes.

In early social identity research, self-categorization theorists argued that a social identity emerges via comparisons with relevant outgroups such that the interpretation of shared ingroup norms and behaviors are deduced from the collective interpretation of the intergroup context (Turner et al., 1987). Furthermore, SIT posits that "the evaluation of one's own ingroup is determined with reference to specific other groups through social comparison in terms of value-laden attributes and characteristics" (Tajfel & Turner, 1979, p. 40). Later research showed that ingroup identification can be based on contrasting who "we" are (i.e., ingroup) from "who we are not" (i.e., a relevant outgroup; Jetten, Branscombe, Schmitt, & Spears, 2001). This suggests that social identities are situationally formed through intergroup comparisons with salient outgroups.

In contrast, other researchers have argued that comparisons with outgroups are not necessary to build positive social identities. Specifically, in novel ingroups, people tend to use their individual self as an anchor to define and positively

evaluate their ingroup (Cadinu & Rothbart, 1996). Such egocentric approach to create a positive ingroup identity occurs at the intragroup level and does not necessarily require the presence of an outgroup (Clement & Krueger, 2002). Moreover, research demonstrated that positive ingroup identities can emerge without the presence of an outgroup (Gaertner, Iuzzini, Witt, & Orina, 2006). Specifically, when manipulating the presence or absence of an outgroup in a minimal group, intragroup interaction and interdependence among ingroup members fostered positive ingroup regard regardless of outgroup presence.

Taken together, there is little doubt that both inter- and intragroup concerns are relevant in relation to ingroup identification. Yet, particularly in larger categories, *when* and *how* both processes contribute to social identity formation is still unknown. In the present study, we adopt a longitudinal approach to understand newcomers' ingroup identification with an *existing social category*. Such approach is highly valuable to understand how the role of intragroup affiliation and intergroup distinctiveness may dynamically change as one develops from a newcomer to a full-fledged group member.

A Dynamic Model

To develop hypotheses, we distinguish between the immediate concerns of newcomers and the subsequent phases during group socialization. We will focus on interpersonal attraction as an intragroup concern, ingroup favoritism as an intergroup concern, and self-prototypicality, which, as will become apparent, is rooted in both intra- and intergroup concerns.

Immediate Concerns

Seeking affiliations. Following the models of small group formation (Tuckman, 1965; Worchel, 1998) new group members' first interest is to affiliate with, and get to know other group members, thereby making interpersonal attraction a key element of social identity development at early stages of group membership. As stated above, small groups are markedly different from social categories in the sense that social category membership appears to be largely shaped by cognitive abstractions of a group's representation (cf. Tajfel & Wilkes, 1963), rather than face-to-face interactions. Nevertheless, there is good reason to assume that in social categories too, newcomers' primary concern to socialize and establish interpersonal bonds is a requirement and may serve a variety of functions, including the need to belong (see also ODT; Brewer, 1991).

To illustrate this, early research on the formation of a shared identity suggested that intragroup attraction enhances ingroup identification because attraction signals common category membership (Hogg & Turner, 1985). The same idea is confirmed indirectly in literature examining newcomer socialization into organizations. Here, research has shown that interpersonal support from colleagues is a key predictor of affective organizational commitment (Allen & Meyer, 1990) and of successful adjustment to the organization and the new role (Jones, 1986). There is also cross-sectional evidence suggesting that intragroup attraction is a reliable predictor of organizational commitment (Brown, Condor, Matthews, & Wade, 1986; Eisenbeiss & Otten, 2008). Moreover, for even larger social categories (i.e., national identity), research offers indirect support for the idea that intragroup attraction is relevant for social identity processes (Smith & Postmes, 2011). This research demonstrates that in a large social category (i.e., the British), interpersonal discussion with ingroup members led to more perceived shared cognition and consensus about the British identity compared with having group members think about the respective discussion topics individually.

Altogether, the idea that intragroup processes may predict an emergent sense of social identity in larger social categories has sufficient empirical basis in cross-sectional research. Yet, its role in longitudinal development of ingroup identification is unexplored. Combined with the work on small group development models (Tuckman, 1965; Wheelan, 1994), we argue that for newcomers in existing social categories, the role of interpersonal attraction (i.e., making friends and interacting with fellow ingroup members) is particularly relevant for ingroup identification at the beginning of group membership. At the start, newcomers are likely uncertain about their new social identity. Thus, they should be motivated to seek interpersonal connectedness with others and create opportunities to interact to affirm their ingroup membership and establish an ingroup bond. After a while, when ingroup friendships are established, interpersonal attraction is likely a less important predictor of identification (Wheelan, 1994). Thus, we hypothesize that the initial success of newcomers to form a new social network of friends in their social category is likely to be a longitudinal predictor of identification at initial stages of group membership (T1-T2). This relationship should diminish over time (T2-T3; Hypothesis 1).

Fitting in. Another concern for newcomers is to familiarize themselves with the properties of the new social category and to fit in. Newcomers generally lack inside knowledge about the new group's norms and practices (Ryan & Bogart, 2001; Tuckman, 1965). Hence, questions like "What is my group like?" "Who am I in this group?" and "Do I fit in?" should be highly relevant. As newcomers undergo a psychological transformation from an aspirant, marginal to a full-fledged group member, familiarization with the group's norms and stereotypes increases (Amiot, de la Sablonniere, Terry, & Smith, 2007). In other words, the group member gradually discovers the shared cognitions that form the heart of the ingroup's shared social identity—the system of beliefs and practices that define the group as an entity.

However, mere knowledge of the social category "out there" is not sufficient; it needs to be aligned with the

self-concept and (if possible and desirable) internalized as a social identity "in here" (Jetten & Postmes, 2006). Therefore, group members need to integrate the *cognitive representation of the ingroup into the self*. Following SCT's principle of meta-contrast, the degree of cognitive fit between the self and the ingroup depends on the ratio of the average similarity of the individual member to other ingroup members (intragroup) over the average similarity of the ingroup to other outgroups (intergroup). The more people perceive themselves as cognitively similar to the ingroup and different from relevant outgroups, the higher their self-prototypicality (Turner et al., 1987; Turner, Oakes, Haslam, & McGarty, 1994). Thus, self-prototypicality can be defined as the degree of cognitive fit between self- and group representation (Hogg & Hains, 1998), and is grounded in both intra- and intergroup processes.

A strong cognitive fit between the self and the group has been shown to positively affect ingroup identification; the more the cognitive representations of self and group overlap, the higher ingroup identification (Tropp & Wright, 2001). A recent longitudinal study on the cognitive underpinnings of ingroup identification revealed that the level of cognitive self-ingroup overlap was positively associated with ingroup identification for both newcomers and established group members (van Veelen et al., 2014). From this evidence, we conclude that perceived cognitive "fit" between self and ingroup is an important element of ingroup identification *at any time point* during group membership. Therefore, we expect that self-prototypicality and ingroup identification mutually reinforce each other across time points (T1-T2; T2-T3), as group members align their self-concepts with the groups' norms and values[1] (Hypothesis 2).

Subsequent Concerns

At later stages of group membership (Park, Kraus, & Ryan, 1997), the initial importance of interpersonal bonds for ingroup identification may diminish somewhat (Wheelan, 1994). Based on their accumulated knowledge of group norms and stereotypes, and their internalization of this knowledge in the self, group members may now re-direct their focus outside the group's boundaries, to determine how "ingroup" is positively different from "outgroup." In other words, we assume that once newcomers' initial belongingness needs are satisfied through successful attainment of interpersonal bonds, they may start to focus on fulfilling their need to establish their ingroup as positively distinct from outgroups (ODT; Brewer, 1991).

Insiders and outsiders. The idea that social identities are shaped based on the distinction between "us" and "them" is a key assumption in SCT (Turner et al., 1987). Categorization processes are likely always present when group membership is salient—be it at very early stages of group membership or later on (Tajfel, Billig, Bundy, & Flament, 1971). Particularly in existing social categories, for example when starting to work for an organization (e.g., Apple or Samsung) or when starting an academic study (e.g., psychology or medicine), newcomers likely already have some prior preconception on what their ingroup must be like relative to outgroups. Indeed, in contrast to in minimal groups (Gaertner et al., 2006), in real groups artificially "switching off" outgroup presence is impossible. Importantly, however, the mere cognitive categorization in "us" and "them" as formulated by SCT is not the same as the more motivational process of evaluating the ingroup more positively compared with a relevant outgroup on various attitudinal and behavioral dimensions (SIT; Tafjel & Turner, 1979; ODT; Brewer, 1991). Put differently, being aware of an intergroup context does not imply that such intergroup salience is immediately meaningful for newcomers to build a positive social identity.

To illustrate this, imagine that Susanne has been contemplating what to study at university. She finally decided to go for medicine. Clearly, in her first weeks of college, Susanne is aware of the distinction "us" (medicine) versus "them" (e.g., dentistry). However, as a newcomer, what it means or feels to *be* "us" is still vague, because Susanne is not self-invested in being a medicine student yet (Leach et al., 2008). Only over time, through observation and interaction with other ingroup members, the integration of "us" in the self-concept may become meaningful and socially validated (Haslam et al., 1998; Smith & Postmes, 2011). Hence, for newcomers, the social comparison between "us" and "them" likely does not evoke an affective response yet. Only over time, when Susanne's new social identity as medicine student is socially validated and internalized into her self-concept (see also Postmes, Baray, Haslam, Morton, & Swaab, 2006), intergroup comparisons likely become meaningful to maintain a positive social identity. Now, Susanne probably perceives medicine students as being "better" and "nicer" relative to other relevant student groups.

This strategy to establish and maintain a positive social identity, by representing the ingroup more favorably than an outgroup is called ingroup favoritism (Hewstone, Rubin, & Willis, 2002). In line with our previous argument, Tajfel and Turner (1979) stressed that for ingroup favoritism to emerge, group members must affiliate with the group (ingroup identification) and social comparisons must be meaningful. This suggests that ingroup favoritism is likely to be higher once group members' initial affective group bonds are built. This notion is also supported by Sherif's boys' camp studies (Sherif, White, & Harvey, 1955), which demonstrated that an affective bond between the boys was established *before* groups developed intergroup conflict.

Thus far, empirical evidence is not conclusive about the causal link between ingroup identification and ingroup favoritism (Hewstone et al., 2002). In the present study, the longitudinal investigation of the ingroup identification-favoritism link aims to shed more light on this causal chain.

Specifically, we hypothesize that while no link between identification and ingroup favoritism exists at the beginning of group membership (T1-T2), identification should start to predict ingroup favoritism once group membership is well-established (T2-T3; Hypothesis 3). Note that while in Hypothesis 1, at initial stages of group membership identification is expected to serve as *outcome* variable of interpersonal attraction (T1-T2), in Hypothesis 3, at later stages, it is expected to serve as a *predictor* variable of ingroup favoritism (T2-T3).

The Present Research

In sum, we assume that newcomers' development of ingroup identification is characterized by a move from the intragroup level to the intergroup level and from establishing one's belonging to the ingroup, to positively distinguishing it from relevant outgroups. Putting all theoretical elements together, we arrive at the longitudinal theoretical model depicted in Figure 1. We expect that ingroup identification is initially predicted by interpersonal attraction (Hypothesis 1). Over time, once belongingness needs are satisfied and group membership is socially validated, this path from interpersonal attraction to identification may either diminish or disappear altogether. Second, we expect a positive, recursive relation between self-prototypically and identification, with increases in self-prototypicality predicting increases in identification and vice versa (Hypothesis 2). To some extent, this assumption reflects the intimate relation between the cognitive and affective dimension of belongingness to a social category (see also Leach et al., 2008). Finally, we predict that for newcomers, initially there should be no relationship between identification and ingroup favoritism. Over time, however, once a social identity has become meaningful to the self, the need to positively distinguish it from other groups may emerge and ingroup identification should begin to predict ingroup favoritism (Hypothesis 3).

To test our model predictions, we conducted 2 three-wave longitudinal studies with first-year students (Study 1: psychology undergraduates; Study 2: medical undergraduates) during their first semester. The transition to university represents an important life change as new students undergo an intense period of socialization as a university student (see Amiot, Blanchard, & Gaudreau, 2008; Cassidy & Trew, 2001). Therefore, the current context is well suited for the investigation of newcomers' social identity development.

Study 1

Method

Design and procedure. At the very beginning of their first study year, participants were recruited from psychology programs at three German universities. Participants completed an online questionnaire at the start (during their first days), in the middle (after 6 weeks), and at the end (after 12 weeks) of their first semester. The study was introduced as longitudinal investigation of how individuals form opinions when they enter a group. It was explained that participation was voluntary and that anonymity and confidentiality would be ensured; participants were asked to give only individual codes to match their data files longitudinally. After having participated 3 times, students were either given course credit or received 10 Euro.

Participants. Participation rates were n = 222 at T1 (M_{age} = 20.86, SD = 3.23 years; 73% female), n = 162 at T2 (M_{age} = 20.68, SD = 2.87 years; 85% female), and n = 135 at T3 (M_{age} = 20.84, SD = 2.96 years, 85% female). The participants at T3 could all be matched over time.[2] Below, we describe the measures in the study.

Interpersonal attraction. Interpersonal attraction was measured with two items (Hogg & Hains, 1998; Hogg & Hardie, 1991). Participants were asked to indicate how many of their friends were psychology students (1 = *very few*; 5 = *many*) and how much of their leisure time they spent with other psychology students (1 = *very rarely*; 5 = *a lot*). Both items correlated significantly at each time point, T1: $r(135) = .58$, $p < .001$; T2: $r(135) = .73$, $p < .001$; T3: $r(135) = .67$, $p < .001$.

Self-prototypicality. Self-prototypicality captured the cognitive similarity between the group and the self ("In many respects, I am a typical psychology student"; Simon & Massau, 1991) and the assumed perspective of the others ("Others would describe me as a typical psychology student"; Kashima, Kashima, & Hardie, 2000). Both items (1 = *do not agree at all*; 5 = *fully agree*) correlated significantly across time points, T1: $r(135) = .59$, $p < .001$; T2: $r(135) = .66$, $p < .001$; T3: $r(135) = .65$, $p < .001$.

Identification with the ingroup. Respondents' identification with the ingroup was measured with a 10-item scale (1 = *do not agree at all*; 5 = *fully agree*), which reflected the multidimensional nature of identification (e.g., Brown et al., 1986; Leach et al., 2008). Six items were taken from the Brown et al. (1986) Identification Scale (e.g., "I feel strong ties with psychology students" and "I identify with psychology students"), and four items focused on behavioral and affective commitment (e.g., "I am willing to commit myself to the psychology students' concerns"). The reliability of the scale over time was good (T1: $\alpha = .84$; T2: $\alpha = .80$; T3: $\alpha = .84$).[3]

Ingroup favoritism. Results of a pretest among 35 psychology students at a German university showed that medical students were perceived as the most important outgroup. Ingroup favoritism relative to medical students was assessed with five items (T1: $\alpha = .77$; T2: $\alpha = .70$; T3: $\alpha = .80$) on 5-point scale (1 = *do not agree at all*; 5 = *fully agree*). Items

Table 1. Means, Standard Deviations, and the Change of Means Over Time (Study 1).

	Time 1	Time 2	Time 3	
	M (*SD*)	*M* (*SD*)	*M* (*SD*)	*F*(2, 268)
Self-prototypicality	2.66 (0.94)[a]	2.83 (0.94)[b]	2.86 (0.95)[b]	4.92**
Interpersonal attraction	2.24 (0.99)[a]	2.91 (1.12)[b]	3.04 (1.09)[b]	57.50***
Ingroup favoritism	2.07 (0.76)	2.16 (0.79)	2.16 (0.80)	1.27
Identification	3.59 (0.57)[a]	3.46 (0.54)[b]	3.44 (0.61)[b]	7.00**

Note. Means with different superscripts differ at $p < .05$, following (Bonferroni adjusted) mean difference tests.
*$p < .05$. **$p < .01$. ***$p < .001$.

were derived from a scale by Weber, Mummendey, and Waldzus (2002) and Wenzel, Mummendey, Weber, and Waldzus (2003) and comprised aspects such as liking (reversed), willingness to get in contact with medical students (reversed), and statements concerning the academic and social skills of the ingroup compared with the outgroup.

Results

Dropout analysis. A dropout analysis tested if attrition of participants was unrelated to model variables (Little, Lindenberger, & Maier, 2000). We conducted independent samples *t* tests to compare the dropouts versus the continuers on our model variables at T1. We included Levene's test and report the data for unequal variances assumed as we are dealing with large differences in group size between the dropouts and the continuers. The analysis revealed no significant differences, apart from ingroup identification. Continuers between T1 and T2 scored higher on ingroup identification ($M = 3.51$; $SD = 0.59$) compared with dropouts ($M = 3.24$, $SD = 0.24$), $t(158, 15) = 3.30$, $p < .001$, 95% confidence interval [CI] = [.14, .41]. The difference in identification levels between the first and second wave may be attributed to the fact that T1 dropouts include students who were unsatisfied about their study choice. Likely, these students are less represented among continuers in the sample at T2 and T3 (see Easterbrook & Vignoles, 2012; van Veelen et al., 2014, for similar findings). Drop-out analyses between T2 and T3 revealed no significant differences. Thus, apart from identification between T1 and T2, the analyses supported a pattern of random dropout.

Changes in variable means over time. A repeated-measures ANOVA showed that changes in variable means were mainly observed between T1 and T2 (Table 1). Identification significantly decreased over time, $F(2, 268) = 7.00$, $p = .001$, $\eta_p^2 = .05$, specifically between T1 and T2 ($p = .01$). Interpersonal attraction, $F(2, 268) = 57.50$, $p < .001$, $\eta_p^2 = .30$, and self-prototypicality, $F(2, 268) = 4.92$, $p = .01$, $\eta_p^2 = .04$, significantly increased over time, also due to significant change from T1 to T2 (interpersonal attraction: $p < .001$; self-prototypicality: $p = .05$). Ingroup favoritism slightly increased between T1 and T2 but not significantly so, $F(2, 268) = 1.27$, $p = .28$, $\eta_p^2 = .01$. At first glance, the decrease in identification and increase in interpersonal attraction over time might seem counter-intuitive to our hypotheses. However, absolute changes in variable means over time do not capture the more complex dynamic of change in the interrelatedness among social identity variables (see also Amiot et al., 2010; van Veelen et al., 2014). Therefore, for the purposes of this research, emphasis is placed on the investigation of changes in cross-sectional and longitudinal *relationships* between variables over time.

Cross-sectional analyses. Cross-sectional correlations at T1, T2, and T3 are displayed in Table 2. At all time points, self-prototypicality and interpersonal attraction were significantly positively related to ingroup identification. Indirectly supporting Hypothesis 2 that self-prototypicality and ingroup identification mutually reinforce each other over time, the correlation between identification and self-prototypicality increased significantly over time ($z = 2.78$, $p = .003$, one-tailed). Indirectly supporting Hypothesis 3 that no link between identification and ingroup favoritism exists at the beginning of group membership, while such link starts to emerge over time, the correlation between identification and ingroup favoritism was the only relationship that shifted from a negative direction to a positive direction over time ($z = 2.71$, $p = .003$, one-tailed). The positive relation between identification and ingroup favoritism was significant only at T3.

Longitudinal effects. To investigate the longitudinal relationships between the variables, cross-lagged path analyses with structural equation modeling (SEM) were performed. Path analyses determine the degree to which the obtained data fit the hypothesized model and the proposed relationships between variables. The analyses were conducted using AMOS 22.0 to yield maximum likelihood parameters. Assessment of model fit was based on multiple criteria. In line with the recommendations (Kline, 2004), the value of the normed χ^2 should be less than 3, the value of the CFI should exceed .95, and the value of the RMSEA should approximate .06 or less (Hu & Bentler, 1999). The Akaike information criterion (AIC) was used to assess model fit and parsimony when comparing alternative models.

Table 2. Cross-Sectional Correlations Between Identification and the Other Variables at T1, T2, and T3 (Study 1).

Variables	1	2	3
1. Identification T1/T2/T3			
2. Self-prototypicality T1/T2/T3	.23**[a]/.43***[b]/.52***[b]		
3. Interpersonal attraction T1/T2/T3	.24**[a]/.39***[b]/.39***[b]	.08[a]/.26**[b]/.40***[b]	
4. Ingroup favoritism T1/T2/T3	−.15[a]/.01[a,b]/.18*[b]	.01[a]/.05[a]/.20*[b]	−.17[a]/−.16[a]/−.14[a]

Note. Superscripts a and b indicate whether correlations significantly ($p < .05$; one-tailed) differ across time points (T1, T2, T3) using Fisher *Z* transformation.
*$p < .05$. **$p < .01$. ***$p < .001$.

Table 3. Model Fit Statistics for Hypothesized Cross-Lagged Path Analyses (Study 1).

	Fit statistics									
	χ^2	*df*	*p*	χ^2/df	RMSEA	CFI	AIC	$\Delta\chi^2$	Δdf	Δp
Model 1.1[a]	109.74	40	.00	2.74	.114	.91	185.74			
Model 1.2[b]	71.80	33	.00	2.17	.095	.95	161.80	37.94	7	<.001
Model 1.3[c]	47.19	30	.02	1.52	.065	.98	143.19	24.61	3	<.001
Model 1.4[d]	46.79	29	.02	1.61	.068	.98	144.78	.40	1	.53
Model 1.5[e]	57.32	31	.00	1.85	.080	.97	151.32	10.13	1	<.001
Model 1.6[f]	48.58	32	.03	1.52	.062	.98	140.57	1.39	2	.50
Alternative Model 1.A[g]	60.44	32	.00	1.89	.081	.96	152.44	11.25	0	
Alternative Model 1.B[h]	54.52	32	.01	1.70	.072	.97	146.51	5.57	0	

Note. Model comparisons for Model 4, 5, and 6 are done in relation to Model 3. RMSEA = root mean square error approximation; CFI = comparative fit index; AIC = Akaike information criterion.
[a]The stability model.
[b]The hypothesized model.
[c]The hypothesized model with modification indices.
[d]Model 1.3 with freeing up the path from interpersonal attraction T2 to identification T3.
[e]Model 1.3 with an equality constraint on identification → Ingroup favoritism for T1-T2 and T2-T3.
[f]Model 1.3 with two equality constraints on self-prototypicality ↔ Identification for T1-T2 and T2-T3.
[g]Model 1.6 with reverse causal sequence between ingroup favoritism and identification.
[h]Model 1.6 with reverse causal sequence between interpersonal attraction and identification.

The hypothesized model was tested within a sequence of nested models proceeding stepwise from the most basic model to more restricted models (Bentler, 2000; Bollen, 1989). First, we tested a baseline or stability model. In the stability model, only auto regressive paths were modeled to make sure that presumed cross-lagged effects are robust over and above stability of constructs across time (Burkholder & Harlow, 2003). Moreover, the covariates between exogenous variables and error terms were modeled (regardless of their statistical significance, these covariates account for common causes that are not included in the model as well as synchronous relationships within waves; Kline, 2004). Thereafter, hypothesized cross-lagged paths were added. Finally, model comparisons were calculated by sequentially imposing constraints on cross-lagged paths, using the χ^2 difference test to compare constrained and unconstrained models (Bollen, 1989; see Table 3).

Model fit. The stability model (Model 1.1) yielded moderate support: All auto regressions were significant (all βs > .50, all *p*'s < .001) indicating that all model variables were stable across time points. Yet, the moderate fit also left room for additional variance to be explained. Subsequently, the hypothesized model (Model 1.2) was tested as depicted in Figure 1. Specifically, a cross-lagged path was added between interpersonal attraction T1 and identification T2 (while it was fixed for T2-T3), recursive cross-lagged paths were added between self-prototypicality and identification, and cross-lagged paths were added between identification and ingroup favoritism. Model 1.2 yielded significantly better fit than the stability model, $\Delta\chi^2(7, N = 135) = 37.94$, $p < .001$ (see Table 3). Two model modifications were performed to further optimize the model fit. Specifically, two cross-lagged paths predicting interpersonal attraction by self-prototypicality over time were added. This means that the perceived similarity of a group member with the group should influence the strength of interpersonal bonds within the group at a later measurement point. From a theoretical perspective, this modification is justified as it reflects the "similarity-attraction hypothesis" (Newcomb, 1956). Specifically, self-prototypicality implies a high level of perceived similarity between the self and other ingroup members, thereby increasing interpersonal attrac-

Table 4. Standardized Auto Regressions and Cross-Lagged Paths of the Variables Over Time (Study 1).

	First order		Second order
Model 6	T1-T2	T2-T3	T1-T3
Standardized auto regressions			
Self-prototypicality	.59***	.48***	.28***
Interpersonal attraction	.57***	.72***	
Identification	.45***	.69***	
Ingroup favoritism	.48***	.76***	
Standardized cross-lagged paths			
Self-prototypicality → Identification	.21**	.11**	
Interpersonal attraction → Identification	.22**	Fixed	
Self-prototypicality → Interpersonal attraction	.16**	.13*	
Identification → Self-prototypicality	.14*	.06	
Identification → Ingroup favoritism	−.14*	.16**	

*$p < .05$. **$p < .01$. ***$p < .001$.

tion. Furthermore, a second-order auto regression predicting self-prototypicality at T3 from self-prototypicality at T1 was inserted (Model 1.3). These modifications improved the model fit significantly, $\Delta\chi^2(3, N = 135) = 24.61$, $p < .001$.[4]

Hypothesis testing. In the next step, the cross-lagged paths that were hypothesized to change over time were tested. In the theoretical model, the cross-lagged path between interpersonal attraction at T2 and identification at T3 was fixed at zero, reflecting Hypothesis 1 that interpersonal attraction should only be a relevant predictor for identification between T1 and T2, but no longer between T2 and T3. Supporting this hypothesis, the parsimonious model in which T2-T3 were fixed did not significantly differ from the model in which the path between T2 and T3 was freed (Model 1.4), $\Delta\chi^2(1, N = 135) = 0.40$, p = ns (Kline, 2004). In Hypothesis 3, we stated that higher identification should lead to stronger ingroup favoritism only between T2 and T3, but not between T1 and T2. Thus, the cross-lagged paths between identification and ingroup favoritism should not be equal over time (Model 1.5), and the invariance test corroborated this hypothesis, $\chi^2(31, N = 135) = 57.32$, $p = .003$, $\chi^2/df = 1.85$, AIC = 151.32, CFI = .97, RMSEA = .08. Imposing an equality constraint on the relationship between identification and ingroup favoritism between T1 and T2 and T2 and T3 yielded significantly worse model fit, with $\Delta\chi^2(1, N = 135) = 10.13$, $p < .001$. Thus, the influence of identification on ingroup favoritism differed significantly over time. Finally, it was predicted that the cross-lagged paths between self-prototypicality and identification should reinforce each other over time (Hypothesis 2). Thus, two equality constraints on cross-lagged paths were stepwise included in the model. Comparing Model 1.3 with the restricted model (Model 1.6) revealed that both models were not significantly different from each other, $\Delta\chi^2(2, N = 135) = 1.39$, $p = .50$. Thus, the invariance assumption was supported for the tested parameters. In summary, in line with our hypotheses, Model 1.6 was the most optimal and parsimonious.

Regression weights. Table 4 displays regression weights (βs) for all auto regressions and cross-lagged paths in our final Model 1.6. Confirming Hypothesis 1, interpersonal attraction had a longitudinal impact on identification between T1 and T2. Confirming Hypothesis 2, the longitudinal relationship between self-prototypicality and identification was bidirectional and positively significant between both time points. This finding confirms that cognitive similarity between the self and group and ingroup identification positively reinforce each other and that this pattern is stable across time points. It must be noted that between T2 and T3, the path from identification to self-prototypicality was no longer significant; here, the reverse causal sequence was stronger (i.e., more perceived cognitive similarity leads to higher identification; see, for similar findings, van Veelen et al., 2014). Finally, confirming Hypothesis 3, ingroup identification at T1 was a significant predictor of ingroup favoritism at T2 in the *negative* direction implying that higher identification at T1 led to *less* ingroup favoritism at T2. Importantly, between T2 and T3, identification predicted ingroup favoritism in the *positive* direction: more identification at T2 led to more favoritism at T3.

Alternative models. To further validate the final model (Model 1.6), it was evaluated against two alternative models (see Table 3). First, we tested the model with the reversed causal sequence between ingroup favoritism and identification between both T1 and T2 and T2 and T3 (alternative Model 1.A). This model yielded worse model fit as was evident from the smaller AIC in Model 1.6. In addition, both regression weights for T1 and T2 (β = .02, $p = .79$) and T2 and T3 (β = .02, $p = .67$) were not significant. This indicates that ingroup identification is more likely to cause ingroup favoritism than vice versa. In an alternative Model 1.B, we tested Model 1.6 against the reverse causal sequence between identification and interpersonal attraction. This model also yielded worse model fit based on the AIC.

Discussion

Study 1 confirmed the longitudinal predictors and consequences of ingroup identification among newcomers as suggested in Figure 1. First, the analysis of changes in variable means over time revealed that self-prototypicality and interpersonal attraction increased, indicating that the degree of perceived similarity to the group and interpersonal relatedness within the group strengthened over time. Furthermore, identification decreased over time, which might reflect an expectancy–adjustment effect (we will address this point later in

Table 5. Means, Standard Deviations, and the Change of Means Over Time (Study 2).

	Time 1	Time 2	Time 3	
	M (*SD*)	*M* (*SD*)	*M* (*SD*)	*F*(2, 204)
Self-prototypicality	3.00 (0.88)[a]	3.02 (1.00)[a]	3.24 (1.05)[b]	5.11**
Interpersonal attraction	2.03 (0.98)[a]	2.80 (1.10)[b]	2.95 (1.11)[b]	52.50***
Ingroup favoritism	1.80 (0.80)[a]	2.02 (1.00)[b]	1.95 (0.88)[a,b]	2.96*
Identification	3.61 (0.57)	3.55 (0.65)	3.60 (0.67)	0.76

Note. Means with different superscripts differ at $p < .05$, according to (Bonferroni adjusted) mean difference tests.
*$p < .05$. **$p < .01$. ***$p < .001$.

further detail; Wanous, Poland, Premack, & Davis, 1992). Second, *cross-sectional results* showed that at group entry, identification and ingroup favoritism were uncorrelated, while this relationship changed into a significantly positive one over time. This indicates that newcomers' first concern is seeking affiliation with ingroup members, rather than focusing on how the group is positively distinct from its larger social context. This finding is in line with the cognitive developmental model on identification by Amiot and colleagues (2007).

Most importantly, cross-lagged path analysis on the *longitudinal relationships* between the variables supported our dynamic model of ingroup identification (Figure 1). Interpersonal attraction served as a longitudinal predictor of ingroup identification at the beginning of group membership (between T1 and T2), but not later on (between T2 and T3). Second, self-prototypicality and ingroup identification mutually reinforced each other consistently over time. Finally, although ingroup favoritism was negatively related to identification between T1 and T2, it was positively related between T2 and T3. The longitudinal relationships between interpersonal attraction, identification, and ingroup favoritism reflected the assumed shift from intragroup to intergroup concerns over time.

Study 2

To consolidate our findings, we replicated the model test with another sample. This allowed addressing two possible methodological limitations: One is to conduct a-priori test of the final model in Study 1 (Model 1.6; Nesselroade, 1991). Moreover, a replication provides a cross-validation, thereby addressing potential selection effects (e.g., generalizability of the model) in longitudinal research. We chose students of medical sciences as our sample, as this group differs from psychology students concerning specific group features (group size, status) that might possibly affect the hypothesized model.[5]

Method

Design and procedure. The design was broadly identical to the first study (i.e., data collection at the same time points and via internet-based questionnaire). The same measures were used and adapted to the medical students. For the measurement of ingroup favoritism, the findings of a pretest with 31 undergraduate medical students identified dentistry as their most important outgroup. The reliabilities of all measures were good: for both self-prototypicality and interpersonal attraction (all rs > .46, all ps < .001) and identification and ingroup favoritism (all αs > .80).

Participants. Medical students from two universities participated. Participant rates were $n = 174$ at T1 ($M_{age} = 20.07$, $SD = 2.29$ years; 76% female), $n = 129$ at T2 ($M_{age} = 20.21$, $SD = 2.38$ years; 73% female), and $n = 103$ at T3 ($M_{age} = 20.46$, $SD = 2.45$ years; 73% female). T3 participants could be matched over time.[6]

Results

Dropout analysis. With independent samples t test we compared the dropouts versus continuers on all model variables at T1. Levene's test showed that on none of these variables the assumption of equal variances was violated. Hence, with equal variances assumed, the analysis revealed no significant differences between dropouts and continuers between T1 and T2 (all ts < 1.80 ps > .08) and between dropouts and continuers between T2 and T3 (all ts < 1.50; ps > .17). Hence, we conclude that dropout was random.

Changes in variable means over time. A repeated-measures ANOVA assessed changes of variable means over time (see Table 5). Interpersonal attraction, $F(2, 204) = 52.50$, $p < .001$, $\eta_p^2 = .34$, and self-prototypicality, $F(2, 204) = 5.11$, $p = .01$, $\eta_p^2 = .05$, increased significantly over time. As in Study 1, interpersonal attraction increased significantly only between T1 and T2 ($p < .001$) and self-prototypicality increased between T2 and T3 ($p = .02$). In contrast to the psychology students in Study 1, the mean level of ingroup identification among medical students did not change over time, $F(2, 204) = 0.76$, $p = .47$, $\eta_p^2 = .01$. Moreover, ingroup favoritism increased slightly over time, $F(2, 204) = 2.96$, $p = .05$, $\eta_p^2 = .03$.

Correlational analyses. The cross-sectional correlations between the model variables are displayed in Table 6. Comparable with Study 1, interpersonal attraction and self-prototypicality were

Table 6. Cross-Sectional Correlations Between Identification and the Other Variables at T1, T2, and T3 (Study 2).

Variables	1	2	3
1. Identification T1/T2/T3			
2. Self-prototypicality T1/T2/T3	.39***[a]/.54***[b]/.57***[b]		
3. Interpersonal attraction T1/T2/T3	.19**[a]/.32**[a,b]/.40***[b]	.09[a]/.23**[a]/.27**[a]	
4. Ingroup favoritism T1/T2/T3	−.14[a]/.10[b]/.07[b]	−.10[a]/.19[b]/.12[b]	−.06[a]/.06[a]/.05[a]

Note. Superscripts a and b indicate whether correlations significantly ($p < .05$; one-tailed) differ across time points (T1, T2, T3) using Fisher *Z* transformation.
*$p < .05$. **$p < .01$. ***$p < .001$.

Table 7. Model Fit Statistics for Hypothesized Cross-Lagged Path Analyses (Study 2).

	Fit statistics									
	χ^2	*df*	*p*	χ^2/df	RMSEA	CFI	AIC	$\Delta\chi^2$	Δdf	Δp
Model 2.1[a]	206.19	80	.00	2.58	.08	.91	358.19			
Model 2.2[b]	123.66	66	.00	1.87	.061	.96	303.62	82.53	16	<.001
Model 2.3[c]	122.79	64	.00	1.92	.062	.95	306.79	0.87	2	.65
Model 2.4[d]	134.55	69	.00	1.95	.063	.95	308.59	10.89	3	.012
Alternative Model 2.A[e]	137.07	66	.00	2.08	.068	.95	317.07	13.41	0	
Alternative Model 2.B[f]	125.46	66	.00	1.91	.062	.96	305.46	1.80	0	

Note. Model comparisons for Model 2.3 and onward are done in relation with Model 2.2. RMSEA = root mean square error approximation; CFI = comparative fit index; AIC = Akaike information criterion.
[a]The stability model.
[b]The hypothesized model (similar to Model 1.6, Study 1).
[c]Model 2.2 with freeing up the path from interpersonal attraction T2 to identification T3.
[d]Model 2.2 with an equality constraint on identification → ingroup favoritism for T1 and T2 and T2 and T3.
[e]Model 2.2 with reverse causal sequence between ingroup favoritism and identification.
[f]Model 2.2 with reverse causal sequence between interpersonal attraction and identification.

positively associated with identification across time points. In line with Hypothesis 3, the correlation between identification and ingroup favoritism was negative (though not significantly) at T1 and became positive over time. This change from a negative to a positive direction was significant between T1 and T2 ($z = -1.87$, $p = .04$, one-tailed).

Longitudinal effects: Multi-sample analysis. The main aim of Study 2 was to cross-validate the theoretical model comprising the longitudinal relationships between the variables. Multi-sample modeling provides a method to directly test this hypothesis as it simultaneously determines the fit of a theoretical model to data from different populations.

Equality constraints were stepwise introduced on the cross-lagged paths to test the equality of cross-lagged paths across samples (Path $A_{Sample\ 1}$ = Path $A_{Sample\ 2}$) and across time (Path $A_{T1\text{-}T2}$ = Path $A_{T2\text{-}T3}$). The introduced constraint holds if the χ^2 difference test is not significant (Kline, 2004; see Table 7).

Model fit, hypothesis testing, and alternative models. First, the stability model yielded moderate fit for both groups (Model 2.1). Subsequently, the final model in Study 1 (Model 1.6) was tested. This model (Model 2.2) yielded significantly better fit than the stability model, $\Delta\chi^2(16, N = 238) = 82.53$, $p < .001$. As in Study 1, the model fit did not improve when freeing the cross-lagged path between interpersonal attraction at T2 and identification at T3 (Model 2.3), $\Delta\chi^2(2, N = 238) = 0.87$, $p = .65$. In addition, the invariance test on the cross-lagged paths between identification and ingroup favoritism (Model 2.4) confirmed that identification influences ingroup favoritism (positively) only between T2 and T3, with $\Delta\chi^2(3, N = 238) = 10.89$, $p = .01$.

Next, equality constraints on the cross-lagged paths across samples were imposed (see Bollen, 1989). Each cross-lagged path in Study 1 was stepwise constrained to be equal to the respective path in Study 2. In total, nine equality constraints across groups were stepwise introduced. This revealed that the fit of this restricted cross-lagged path model, $\chi^2(69, N = 238) = 130.88$, $p < .001$, $\chi^2/df = 1.90$, AIC = 304.88, CFI = .95, RMSEA = .06, was not significantly different from the unrestricted model, $\chi^2(60, N = 238) = 120.08$, $p < .001$, $\chi^2/df = 1.90$, AIC = 312.07, CFI = .96, RMSEA = .07 with $\Delta\chi^2(9, N = 238) = 10.80$, $p = .29$. Thus, *all cross-lagged paths linking identification to its hypothesized predictors and consequences were equal across both groups.* Therefore,

Table 8. Standardized Auto Regressions and Cross-Lagged Paths of the Variables Over Time Study 1 and (Study 2).

	First order		Second order
Model 2.2	T1-T2	T2-T3	T1-T3
Standardized auto regressions			
Self-prototypicality	.58*** (.54***)	.47*** (.51***)	.28*** (.26***)
Interpersonal attraction	.57*** (.55***)	.72*** (.70***)	
Identification	.46*** (.57***)	.70*** (.68***)	
Ingroup favoritism	.48*** (.55***)	.76*** (.64***)	
Standardized cross-lagged paths			
Prototypicality → Identification	.15*** (.18***)	.13*** (.10*)	
Interpersonal attraction → Identification	.22** (.11***)	Fixed	
Prototypicality → Interpersonal attraction	.15* (.10**)	.13* (.09*)	
Identification → Prototypicality	.11** (.17**)	.10** (.08)	
Identification → Ingroup favoritism	−.14* (−.03)	.16** (.11*)	

Note. The results for Study 2 are illustrated in brackets.
*$p < .05$. **$p < .01$. ***$p < .001$.

Model 2.2 (similar to Model 1.6 in Study 1) obtained best model fit and was consistent across the two samples.

In a last step, we again tested two alternative models. First, the model with the reversed causal sequence between ingroup favoritism and identification between both T1 and T2 and T2 and T3 (Alternative Model 2.A) yielded worse model fit, based on the smaller AIC index. In Alternative Model 2.B, the reverse causal sequence between identification and interpersonal attraction was plotted, again yielding worse model fit based on the AIC (see Table 7).

Regression weights. Table 8 displays the *auto regressions* and *cross-lagged paths* for both samples of the final model. Confirming Hypothesis 1, interpersonal attraction had a positive longitudinal impact on identification between T1 and T2. Again, interpersonal bonds established a sense of common identity, but only at the initial stages of group membership. Second, the reciprocal influence between self-prototypicality and identification was stable across time and samples. Like in Study 1, the regression weight from identification T2 to self-prototypicality T3 was no longer significant. Seemingly, self-prototypicality is more likely to predict identification than vice versa. Confirming Hypothesis 3, identification at T1 did not significantly affect ingroup favoritism at T2; yet, this relationship was significant later on, between T2 and T3. This corroborates that identification leads to bias against a relevant outgroup only after group membership is well established. In addition, the cross-lagged path between self-prototypicality and interpersonal attraction was significant across time and samples (in line with the similarity-attraction model). Hence, multi-sample analysis confirmed the model revisions conducted in Study 1.

Discussion

The results of Study 2 are largely in line with Study 1 signaling that our suggested dynamic model on ingroup identification generalizes across different student groups (i.e., psychology and medical students); *all cross-lagged paths were equal across both samples.* Nevertheless, there are slight inconsistencies in the mean-level changes of our constructs over time. Specifically, among psychology students, we found a significant decrease in identification between T1 and T2, while no such decrease was observed among the medical students. As stated before, the decrease in Study 1 may be explained in terms of an expectancy–adjustment effect (Wanous et al., 1992) such that the experience of studying psychology might negatively deviate from prior expectations, thereby affecting identification. In line with this notion, it is an often-heard complaint by psychology students that they are disappointed by the unexpected strong focus on methods and statistics in their study (see van Veelen et al., 2014, for similar findings). No such expectancy-adjustment is known for medicine students.

General Discussion

The present research demonstrates that among newcomers in chosen social categories, longitudinal predictors and consequences of ingroup identification change over time. The reported findings corroborate our idea that interpersonal attraction influences identification predominantly at initial stages of group membership. Once group membership is more established, seeking positive intergroup distinctiveness gained importance, as indicated by the emerging link between identification and ingroup favoritism.

Implications

The present findings extend prior research about intergroup versus intragroup perspectives on ingroup identification. As stated before, from a SIT (Tajfel & Turner, 1979) and SCT perspective (Turner et al., 1987), it has been postulated that ingroups exist by the virtue of outgroups, not by the virtue of personal interaction or attraction. Evidence for this was provided by Hogg and colleagues, who showed that group

cohesiveness emerges as a function of depersonalized social identities (and not interpersonal attraction; Hogg & Hains, 1998; Hogg & Hardie, 1991). Moreover, research revealed that even when group members are expected to dislike each other on the personal level, group cohesion could still emerge based on principles of meta-contrast (Turner, Sachdev, & Hogg, 1983). In contrast, more recent studies (Gaertner et al., 2006) demonstrated that interpersonal attraction and interaction among ingroup members *do* predict positive ingroup regard, irrespective of the absence or presence of an outgroup. In addition, there is accumulating evidence that the role of the individual and the formation of interpersonal bonds is highly relevant for social identity formation (Jetten & Postmes, 2006). However, to date, these studies are mostly cross-sectional and largely focus on small interactive groups. Instead, we have taken a more dynamic approach, focusing on newcomers' social identity development in larger social categories. Our results demonstrate that interpersonal attraction indeed plays an important role for group identification in larger social categories, particularly at initial stages of group membership, when newcomers' first concern is affiliating and socializing with other group members (Levine & Moreland, 1994). However, we also find, in line with SIT and SCT, that at later stages, ingroup identification is no longer related to interpersonal attraction, but to ingroup favoritism. Taken together, adding a time perspective to the study of social identity allows for a more integrative and dynamic understanding of intra- and intergroup processes related to ingroup identification. Both processes play an important role, but this may vary over time.

In existing social categories, intergroup contexts cannot be switched on or off, like in minimal groups (Gaertner et al., 2006). In fact, artificially created in(ter)group contexts may tell us little about the complexity newcomers deal with when joining new social categories in their daily lives. In real groups, people are likely always aware of the intergroup context—as a newcomer or full-fledged group member. At first glance, this seems to contradict our third hypothesis and accompanying results, that ingroup favoritism becomes more important for social identity development at later stages of group membership. Yet, as stated before, although intergroup salience may be present, this does not imply that it is immediately meaningful to build a positive social identity. Importantly, variations in absolute mean levels of variables across time points do not indicate how *interrelations* between social identity variables change over time (Amiot et al., 2010; van Veelen et al., 2014). In fact, both cross-sectional and longitudinal relationships in our studies show that the relationship between identification and ingroup favoritism changes from neutral/negative to positive, indicating the increased relevance of ingroup favoritism in relation to identification.

Across two studies, we find that initially interpersonal attraction fosters identification and that at later stages, identification fosters ingroup favoritism. Importantly, however, we do not wish to claim that this sequence *always* holds when newcomers in real groups develop a sense of social identity. We specifically chose to study newcomers' development of ingroup identification under "normal" circumstances, in which a person deliberately chooses a new social category to join (e.g., a university, sports club, neighborhood). Sometimes, however, transition to new group membership is not voluntarily or not without threat or conflict. For example, in merger situations or among immigrant groups (e.g., Amiot et al., 2007; Amiot et al., 2010; Jetten et al., 2001), people deal with conflicting "old" and "new" identities. In these situations, new group membership is likely fueled by its evaluation and comparison with (former) outgroups right from the start. However, in this work, "vertical" comparisons are made between past and future social identities, because old selves need to be aligned with new selves (i.e., identity continuity). By contrast, in the current studies, we focus on "horizontal" intergroup comparisons (psychology vs. medicine), in which the comparison group was not formerly part of the self-concept and, therefore, less likely to be meaningful or in conflict within the self. To conclude, in line with SIT, when new group membership is accompanied by intergroup threat or conflict, a strong relatedness between ingroup identification and ingroup favoritism already at the very initial stages of group membership can be expected. Considering that SIT originally set out to explain intergroup conflict, it is not surprising that it emphasizes intergroup bias as the basis for social identities to form. Yet, in our studies, when leaving conflict out of the equation, this dynamic may be different.

Limitations and Future Research

Some methodological limitations should be mentioned. In our studies, we exclusively focused on student groups as new social category. In terms of generalizability, we are quite confident that our results will also apply to other real group contexts (e.g., newcomers in a company; moving to a new neighborhood), where new group membership is chosen and not associated with situational threat, conflict, or negative dependence (see Amiot et al., 2007, for similar arguments). For example, when starting a new job at a company, a first concern may be to get to know the other colleagues, the culture, and routines (e.g., "Do I get a laptop?" "Do we go out for lunch together?"). After a few weeks, one may start to perceive how the company is positively different from others (e.g., "They do not go out for lunch," "We have a fancy ICT system"). Nevertheless, the generalizability of our results should be further tested.

Finally, on a more practical note, our results indicate that ingroup identification may have different bases and different meanings at different times during group membership. To optimize integration of newcomers into social categories, events that place emphasis on interpersonal relations, such as providing a mentor or a buddy, may facilitate identification

more optimally than events that focus on a competitiveness with an outgroup. Later on, ingroup friendships may become less connected to the meaning of group membership, while instead, ingroup favoritism does. To conclude, the insight gained from the current research that intra- and intergroup concerns play a different role at different times during social identity development hopefully inspires future research to investigate the consequences for members' group position, functioning, and behavior.

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Notes

1. We differentiate ingroup identification from self-prototypicality: Self-prototypicality deals with assessing social identity content (i.e., "cognitive" fit), whereas identification deals with the psychological attachment to the ingroup (i.e., the "affective" group bond; van Veelen, Otten, Cadinu, & Hansen, 2016). Nevertheless, we do subscribe to prior research showing that self-prototypicality and ingroup identification are related empirically.
2. As the sample consisted of students from three German universities, the homogeneity between sub-samples was examined. Repeated-measures MANOVA with university as a between-subjects and time as a within-subjects factor confirmed that the crucial interaction between time and university was not significant, $F(4, 264) = 1.48$, $p = .21$, $\eta_p^2 = .02$.
3. Given the similarity between the concepts "identification" and "self-prototypicality," a factor analysis was conducted to test the theoretical distinction between these concepts empirically. The results yielded a four-factor solution (T1: Eigenvalues of 4.28, 1.96, 1.49, and 1.08 accounting for 35.68%, 16.31%, 12.45%, and 9.00% of the variance, respectively) with the self-prototypicality items, but none of the identification items highly loading on the third factor. The other three factors reflected the tri-dimensional nature of the identification construct. Hence, the data support that identification and self-prototypicality are clearly distinguishable.
4. Although model revisions are not ideal, they provide information about the robustness of the major model parameters indicating a sensitivity analysis (Byrne, Shavelson, & Muthén, 1989). If the major model parameters do not change substantially, when adding or deleting minor model parameters, then this indicates the empirical robustness of the model. In fact, the significance of the cross-lagged paths did not differ between the two models.
5. A pre-test with 30 undergraduate psychology students confirmed that they perceived themselves to be significantly lower in status compared with medical students. Furthermore, the group size of medical students at universities in Germany is typically larger than that of psychology students.
6. As the sample consisted of students from two universities in Germany, the homogeneity between sub-samples was examined. MANOVA with university as a between-subjects factor and time as a within-subjects factor revealed that the crucial interaction between time and university was not significant, $F(2, 99) = 1.64$, $p = .20$, $\eta_p^2 = .03$.

Supplemental Material

The online supplemental material is available at http://pspb.sagepub.com/supplemental.

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