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Testing and extending the Stereotype Content Model

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ABSTRACT

The stereotype content model (SCM; Fiske, Cuddy, Glick, & Xu, 2002) is, currently, one of the most important theoretical frameworks of intergroup relations, which takes into consideration modern forms of ambivalent stereotype and prejudice. The present work intends to contribute in supporting and extending the model in different ways.

Three empirical studies were realized. The first study is a replication of Study 2 by Fiske, Cuddy, Glick, and Xu (2002). Since, studies testing SCM's hypotheses in the Italian society do not exist, Study 1 aimed at filling this gap by recruiting a student (N=180) and a non-student (N=41) sample to test the main hypotheses underlying the model. Data were collected using questionnaires. Results widely substantiated the SCM, highlighting new interesting effects, and providing us with a cultural picture of modern Italy.

The second study was an application of the SCM to a specific and culturally salient intergroup relationship: Northern vs. Southern Italians. The study aimed, furthermore, at investigating the role played by social dominance orientation (SDO; Pratto, Sidanius, & Levin, 2006) and ingroup identification (Tajfel, 1981) in the adherence to content of stereotypes. Two student samples were recruited, one from the North (N=183), one from the South of Italy (N=182). Using questionnaires, SCM's main hypotheses were tested. Results were consistent with the model's predictions, and reflected the cultural stereotypes of the two groups. However, one interesting inconsistency was found and discussed. Finally, neither SDO nor identification had any impact on the perception of the stereotype content.

Lastly, a set of three empirical studies investigated the possibility that the stereotype dimension of competence may predict status. Linking the SCM with SIT (Social Identity Theory), the role played by ingroup membership in this stereotype-to-social-structure inference was considered. In all three studies the competence of the target groups (Blues and Greens) was manipulated. Groups and group membership were created through minimal group paradigm. Participants evaluated the two minimal groups on items measuring the SCM dimensions. The three studies supported the assumption that competence affects perceptions of status, and that membership does play a role in these inferences.

RIASSUNTO

Il modello del contenuto dello stereotipo (SCM; Fiske, Cuddy, Glick, & Xu, 2002) è, attualmente, una fra le più importanti cornici teoriche concernenti le relazioni intergruppi. Il modello considera, infatti, forme moderne di pregiudizio e stereotipo ambivalenti. Il presente lavoro intende contribuire nel sostenere ed estendere l'SCM in diversi modi.

Sono stati realizzati tre studi. Il primo concerne la replica dello Study 2 condotto da Fiske et al. (2002). Dal momento che non esistono studi volti alla verifica dell'SCM nel contesto italiano, il presente studio intendeva colmare tale lacuna. Un campione studentesco (N= 180) e uno non studentesco (N=41) sono stati reclutati al fine di testare le principali ipotesi sottostanti il modello. I dati sono stati raccolti utilizzando un questionario. I risultati sostengono ampiamente l'SCM, evidenziando nuovi interessanti effetti e fornendo un'istantanea culturale della moderna Italia.

Il secondo studio concerne l'applicazione del modello del contenuto dello stereotipo ad una specifica, e culturalmente saliente, relazione intergruppi: italiani settentrionali *versus* italiani meridionali. Lo studio investiga, inoltre, il ruolo dell'orientamento alla dominanza sociale (SDO; Pratto, Sidanius, & Levin, 2006) e dell'identificazione con l'ingroup (Tajfel, 1981) nell'adesione al contenuto dello stereotipo. Sono stati reclutati due campioni studenteschi, uno al nord (N=183) e uno al sud Italia (N=182). Attraverso l'uso di un questionario, sono state testate le principali ipotesi del modello. I risultati sono coerenti con le previsioni dell'SCM e riflettono lo stereotipo culturale dei due gruppi. Tuttavia, è stata riscontrata e discussa un'interessante differenza. Infine, i risultati concernenti SDO e identificazione con l'ingroup mostrano che nessuna delle due variabili ha un impatto sul contenuto dello stereotipo.

Infine, un set di tre studi sperimentali ha esplorato la possibilità che la dimensione stereotipica della competenza possa prevedere lo status. Integrando l'SCM con la teoria dell'identità sociale (SIT; Tajfel, 1981), è stato investigato il ruolo che l'appartenenza di gruppo gioca nel suddetto processo inferenziale. La competenza dei gruppi target (i Verdi e i Blu) è stata manipolata in tutti e tre gli studi. I gruppi e l'appartenenza ad essi sono stati creati attraverso il paradigma dei gruppi minimali (Tajfel, Billig, Bundy, & Flament, 1971). I partecipanti valutavano i due gruppi minimali su item che misuravano le dimensioni del modello. I risultati dei tre studi sostengono l'assunzione che la percezione di competenza ha un impatto sulla percezione dello status e che l'appartenenza di gruppo gioca un ruolo in tale processo inferenziale.

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Chapter IV

Introduction

One of the major fields of Social Psychology concerns the study of stereotyping and prejudice. Even if, nowadays, research has shown an increase in the general level of tolerance, many social psychologists have started to consider that societies are facing new forms of prejudice. Therefore, it is extremely important to continue the research in this field, in order to explore the changes in the way people express prejudice.

Among recent theoretical developments, the Stereotype Content Model (SCM; Fiske, Cuddy, Glick, & Xu, 2002) has received considerable attention. This model emphasizes the ambivalent nature of the majority of societal stereotypes, which combine both hostile and favorable beliefs towards the same target group. The SCM proposes potentially universal principles of societal stereotypes and their relation to social structure. The model's major assumption is that prejudice is a consequence of the social structural relationships between groups with reference to two critical dimensions: the socio-economic status and the type of interdependence. The combinations of these structural relationships generate the contents of the stereotypes that revolve around two fundamental dimensions: perceived competence and warmth, which are negatively correlated in ambivalent stereotypes. The result of the status-interdependence combination brings about a taxonomy that includes four kinds of prejudice, two ambivalent and two non-ambivalent types. The model has been substantiated by numerous studies; the present research intends to contribute in supporting and extending the SCM in different ways.

In the first chapter, the stereotype content model is illustrated. Furthermore, the main researches and developments of this model are described. Finally, an overview of the empirical studies realized for the present dissertation is presented.

The second chapter describes the first study conducted to substantiate the SCM. Indeed, the aim of the study was to test the model within the Italian society, providing, furthermore, a cultural picture of Italians' perceptions of intergroup relations in today's society.

The third chapter presents an application of the SCM to a specific and salient Italian intergroup relationship. In this study, the role of two variables of individual differences is also investigated.

The fourth chapter presents the findings of a set of three empirical studies, which tested two hypotheses: perceived competence influences the attributions of status; group membership influences the evaluations of status. Using a variety of samples, results supported the hypotheses, highlighting also new interesting effects.

The final section of the present dissertation is devoted to a general discussion of the results reported in the aforementioned chapters.

Chapter I

The Stereotype Content Model

According to Brown (1995), recent North-American and British surveys showed a progressive increasing of the general level of tolerance. The image emerging from these surveys indicates an actual improvement due to a forty year-period of anti-racial and anti-sexist campaigns, social protests and reforms, less stereotypical representations of minorities conveyed by media, and collective actions. However, other investigations highlighted that social inequalities persist (Pettigrew, 1985). Many social psychologists have started thinking that society is facing new forms of prejudice which have found new ways of expression in order to avoid social sanctions. Indeed, nowadays, social norms (e.g., political correctness) strongly punish overt demonstrations of prejudice. Nevertheless, the increasing of public acceptance of certain groups (e.g., Blacks and Jews) is not extended to others (e.g., Gypsies). The changes in the way people express prejudice point out the essentially modifiable nature of such expressions under normative pressure. This necessarily leads social psychologists to move on from the original conceptualization of prejudice, as a uniform antipathy or contempt toward an outgroup (Allport, 1954), in order to take into consideration modern forms of prejudice.

This is, indeed, what Fiske, Cuddy, Glick, and Xu (2002) try to do with their Stereotype Content Model (SCM). “Not all stereotypes are alike” (Fiske et al., 2002, p. 878). This is the first important consideration that guided Fiske and colleagues in their theorization of SCM. According to the authors, stereotype content results from

shared public views of groups. These views are often characterized by ambivalence. Authors support that positive and negative beliefs toward a social group co-exist and actually act together in shaping the stereotype content. Positive beliefs on one dimension may mask, or even help to maintain, negative beliefs about the same group on another dimension, legitimizing the status quo and leading to what Jost and Banaji (1994) define as "system justification".

1. The fundamental dimensions of the Stereotype Content Model

Glick and Fiske (2001a) argue that many social psychologists look at the content of stereotypes as the product of "historical accident". However, if as stated above, stereotypes depend on social pressures, perhaps stereotype content may respond to systematic principles, just as stereotyping processes do (for reviews, see Brown, 1995; Fiske, 1998). Hence, if stereotype content responds to principles, then it is essential to identify common dimensions of content. In doing so, Fiske and colleagues indicate warmth and competence as the two main dimensions capturing the content of cultural stereotypes. The authors support that competence and warmth appear with systematic regularity in the content of group stereotypes (see also Cuddy, Fiske, & Glick, in press; Fiske, Cuddy, & Glick, 2007). These dimensions, indeed, allow people to answer two fundamental questions arising when we interact with other individuals or groups: "are they friends or foes?", which determines whether they are warm or not; and "are they able or unable to carry out their intentions?", which determines their level of competence. Moreover, they argue that qualitative differences among stereotypes are indeed captured by these crucial dimensions.

More and more social psychologists have agreed that warmth and competence are the fundamental dimensions of social judgment. These dimensions seem to be constantly involved when people form impressions, regardless of the object. Indeed, the earliest research mentioning warmth and competence dates back to 1946, when Asch talked about warm–cold versus competence in his person perception research. Afterwards, other researchers mentioned the same dimensions, though with different labels: intellectual good/bad versus social good/bad (Rosenberg, Nelson, & Vivekanathan, 1968); self-profitable traits (e.g., confident, ambitious, practical, intelligent) versus other-profitable traits (e.g., conciliatory, tolerant, trustworthy; Peeters & Czapinsky, 1990); competence versus morality (Wojciszke, 1994, 2005. See also the distinction between warmth and morality by Leach, Ellemers, & Barreto, 2007). However, Allport (1954) supported that both individuals and social groups are categorized according to their level of competence and warmth. The distinction has been massively used in research concerning national stereotypes (Phalet & Poppe, 1997; Poppe & Linssen, 1999), evaluations of social behavior (Vonk, 1999), gender groups (Glick & Fiske, 1996, 1999, 2001b), collectivism vs. individualism (Wojciszke, 1997), compensation hypothesis (Yzerbyt, Provost, & Corneille, 2005).

After having individuated the main dimensions of stereotype content, Fiske and collaborators tried to identify which factors could reliably predict such a content. They argued that intergroup stereotypes revolve on consciousness of power relations. Indeed, according to SCM, stereotypes are direct consequence of socio-structural relationships between groups, organized along two main factors: the groups' relative socio-economic status (high vs. low), and the kind of interdependence existing between them, that is, cooperative versus competitive. The position that a group occupies in society's hierarchy (i.e., status) allows inferences concerning its

competence, while the group's type of interdependence with other groups determines its degree of warmth. As it is possible to trace the importance of competence and warmth in the socio-psychological field, similarly the relevance of status in inferring groups' competence has often been emphasized in social psychology. As reported by many scholars, unsuccessful socio-economic groups are judged as lazy, stupid and unambitious, while successful groups are considered as shrewd, logical and ambitious (Jost & Banaji, 1994; LeVine & Campbell,1972; Tajfel, 1981). Likewise, Sherif (1966) brilliantly demonstrated how competition between groups leads to characterizations of competitors as manipulative, dangerous and hostile, whereas cooperative relations result in more favorable descriptions of the other group (e.g., friendly, caring, warm). Thus, the relationships between status and competence, and interdependence and warmth theorized and supported by SCM have deep roots in the field.

2. SCM: A taxonomy of prejudice

Combining status and interdependence, a 2 x 2 table of possibilities emerges (see also Glick & Fiske, 2001a; Fiske, Xu, Cuddy, & Glick, 1999). Each cell of the table describes a specific form of prejudice, and the stereotype content sustaining each form of prejudice is organized around competence and warmth, predicted, precisely, by status and interdependence. The taxonomy, illustrated in Table 1.1, provides, moreover, emotions and behaviors linked to each form of prejudice. The originality of SCM lies in the fact that it does not describe prejudice as just a uniform antipathy or contempt toward a group, but it supports that prejudice can also lead to positive or ambivalent attitudes. Of the four types of prejudice arising from the

combination of the socio-structural factors, two types are considered non-ambivalent, whereas the other two are characterized by ambivalence.

Groups of high status, perceived in a cooperative relationship are the object of *admiration*. These groups are generally viewed quite favorably, and this form of prejudice, when it does not involve any sort of resentment, is purely positive. The high status and positive interdependence make these groups perceived as both competent and warm: people behave in a respectful manner toward them and express positive emotions such as pride, admiration, and respect. The prejudice of admiration may be directed at ingroups, cooperative groups of equal status (i.e., groups perceived as allies), groups that might be considered collective reference groups (e.g., the middle class).

Opposed to the admiration cell, we found a cell that brings together low status groups, perceived in a competitive relationship. These groups may be the object of a purely hostile form of prejudice: the *contemptuous prejudice*. Groups included in such a quadrant, are perceived as neither warm nor competent. This can occur when low status groups are viewed as illegitimate dependents (e.g., welfare recipients regarded as lazy, parasites and so on). They are the target of negative emotions (e.g., resentment, hostility, lack of respect), and behaviors characterized by avoidance, exclusion and even social atrocities.

The last two forms of prejudice included in the SCM taxonomy are defined as ambivalent (or mixed), that is, competence and warmth are negatively correlated. In other words, in the ambivalent prejudice, groups tend to be viewed as either competent or warm, but not both. It is the opinion of the authors that group stereotypes are mainly ambivalent and, therefore, the last two quadrants of the table captured the greater part of societal stereotypes. They also state that ambivalent

stereotypes can be legitimated in ways that purely hostile stereotypes cannot. How? Emphasizing the favorable aspects of such stereotypes while simultaneously, but covertly, endorsing the negative aspects of the stereotype content.

Table 1.1. A taxonomy of prejudice based on structural relationships between groups

	INTERDEPENDENCE	
STATUS	**Cooperative**	**Competitive**
High	*Admiration*	*Envious Prejudice*
Stereotype	competent, warm	Competent but not warm
Negative emotions		Envy, fear, resentment, hostility
Positive emotions	respect, admiration, affection	respect, admiration
Behavior	Defer	avoid, exclude, segregate, exterminate
Experienced by	subordinates toward generous dominants upon whom they are dependent; ingroup members toward allies; unchallenged dominants toward their own group	dominants whose status is slipping, and disadvantaged groups toward successful minorities/dominants
Groups in category		Jews, Asian, feminists, northerners, business women, black professionals, rich people
Low	*Paternalistic Prejudice*	*Contemptuous Prejudice*
Stereotype	Warm but incompetent	not warm and incompetent
Negative emotions Positive emotions	disrespect, condescension Patronizing affection, pity, liking	disrespect, resentment, hostility
Behavior	personal intimacy, but role segregation	avoid, exclude, segregate, exterminate
Experienced by	dominants toward subordinates upon whom they are dependent and toward "legitimate" dependents; groups that pose no socioeconomic threat	dominants toward subordinates who are seen as illegitimate dependents (a perceived drain on social resources)
Groups in category	retarded, housewives, disabled, elderly, blind, house cleaners, migrant workers	poor whites, poor blacks, welfare recipients

Source: Glick & Fiske (2001a)

The *paternalistic prejudice* is directed toward groups that have low socio-economic success and are perceived as non-competitive. Given these socio-structural

factors, the target group is perceived as warm, but incompetent. Paternalism appears prominently in gender stereotypes (see, Glick & Fiske, 1996). Indeed, this type of prejudice reflects liking but disrespect. Expressions of affection, and emotional and physical closeness to the target group are coupled with strict role of segregation, that keeps the patronized group in "its place". The lack of respect (sometimes expressed as pity) is due to the incompetence attributed to the lower status group. This aspect serves to justify the group's subordination. At the same time, though, the positive aspect (i.e., high warmth) of the mixed stereotype content encourages the lower status group's acquiescence. Patronized groups are seen as having no intention of harming societal reference groups and no ability to do so, in any case. The mixed stereotype serves to promote existing systems of privilege and to conciliate the disadvantaged groups by assigning them socially desirable, though subordinating, traits (Ridgeway, 2001). The desire to explain the *status quo*, albeit unjust, is shared also by members of disadvantaged groups (Jost & Banaji, 1994). This leads them to accept the negative aspects of their ingroup stereotype – i.e., lack of competence – looking for positive differentiation on status-irrelevant dimensions – i.e., warmth. The consensual stereotype about the group's warm qualities provides an easy source of self-esteem (Tajfel, 1981): this reduces members' need for positive differentiation, making the ambivalent stereotype more easily accepted. This is an ambivalent way of system legitimization (Glick & Fiske, 2001a). Jackman (1994) argues that paternalistic systems and their accompanying ideologies serve to minimize the subordinate group's resistance to be exploited. Fiske, Cuddy, Glick, and Xu (2002), support, furthermore, that the specific combination of the high status group's competence and lower status group's warmth creates a subtle and effective pressure on the latter to conform with stereotype prescriptions.

On the contrary, the *envious prejudice* targets groups of high status but perceived as competitors. Their success leads to infer competence, but the goals' antagonism results in inferences concerning warmth that go in the opposite direction. Viewed reluctantly as worthy of respect because of their competence, such groups are not well liked, and elicit envy, resentment and the attribution of coldness, arrogance, lack of sincerity (see also Fiske, Cuddy, & Glick, 2002). As for the paternalism, the positive aspects of the envious stereotype (e.g., Jews are clever) may justify discriminatory behaviors. The competence-related traits make the group a dangerous competitor; hence, discrimination can be justified as self-defense. In discussing the envious prejudice, the authors often resort to successful minorities because, as psychological and sociological "outsiders", they are more likely to face discrimination as a result of envious attitude (Glick & Fiske, 2001a). Because of their economic success, these groups are not characterized as incompetent; on the contrary, it is important not to underestimate their abilities, especially when resources are perceived as limited (see also Sherif, 1966), when dominant groups perceive their status to be slipping (see also Tajfel, 1981), when social breakdown allows violent expression of resentments (see also Runciman, 1966), or when other forms of social flux create increased anxiety (see also Dépret & Fiske, 1999; Staub, 1989). Under such circumstances, successful minorities easily become "scapegoats", especially when society is looking for some human agent to blame ("social causality" by Tajfel's definition). Also in this form of prejudice, many people tend to accept the favorable aspect of their ingroups' stereotype, even at the cost of not challenging the negative side of such a stereotype, sometimes reaching the most tragic consequences (think about the way genocide started and ended during WWII. See also Glick, 2002).

Summarizing, the stereotype content model goes beyond previous discussions of stereotype contents and prejudiced affects. It uniquely combines the competence and warmth dimensions, emphasizing mixed but consistent stereotypes. Moreover, the model addresses pity, contempt, pride, and envy at the group level, linking both trait attributions and social structural variables at the same time. According to the authors, SCM can detect qualitative differences in stereotypes and prejudices toward different groups, providing a conceptual framework that explains why and when these differences might occur (Fiske, Cuddy, Glick, & Xu, 2002). Linking stereotypic traits to power relationships between groups, the model suggests how prejudice is likely to be affected by social changes that alter groups' status and interdependence. Furthermore, "distinguishing the psychological dynamics of prejudice directed upward (admiration) versus downward (paternalism, contempt) suggests how a person's own (or his or her group's) social status may affect prejudice" (*ibidem*, p. 899). Finally, SCM suggests how prejudice can be reduced, namely, changing the perceptions of the socio-structural factors: favoring the perception of equal status, promoting cooperation rather than competition.

3. Formalization of the Stereotype Content Model

Several studies were conducted to test SCM. Fiske, Xu, Cuddy, and Glick (1999) carried out preliminary studies that generally supported the model. However, there were many theoretical and methodological weak points: the groups evaluated by participants were chosen by the authors and their description was too vague. Hence, results could have been biased by the experimenters' expectations. Therefore, the model was formalized through four more studies (Fiske, Cuddy, Glick, & Xu,

2002), aimed at testing the main hypotheses underlying the model: perceived competence and warmth differentiate group stereotypes; many stereotypes include mixed ascriptions of competence and warmth; the status of a group predicts judgments of competence/incompetence; perceptions of competition/cooperation predict judgments of warmth. Pilot studies allowed the authors to individuate which groups were considered as relevant in the North-American society. Participants, belonging to student and non-student populations, answered three questions: "1) Off the top of your head, what various types of people do you think today's society categorizes into groups? 2) What groups are considered to be of very low status by American society? 3) What groups, based on the same kinds of criteria used in the first question, do you consider yourself to be a member of?" (*ibidem*, Study 2, p. 890). Groups listed by at least 15 percent of participants were included in the subsequent studies. These groups were, in fact, evaluated, once again by students and non-students, on items measuring competence, warmth, status, and competition. Cooperation was not included because preliminary evidences showed inconsistent results due most likely to the items' scale. Factor analyses showed similar factors emerging consistently (i.e., SCM's dimensions). For each group evaluated, the competence and warmth ratings were averaged across participants. According to these means, the groups arrayed on a two-dimensional Competence x Warmth space. Then, two types of cluster analysis examined the structure of this two-dimensional space: first, using a hierarchical cluster analysis to determine the best fitting number of clusters; secondly, using a *k*-means cluster analysis to determine which groups fell into which clusters. In short, this methodology showed how competence and warmth dimensions differentiated among stable clusters that meaningfully and reliably

accounted for the distribution of the groups across samples. In other words, authors found support for their first hypothesis.

Three analyses addressed the second hypothesis, that is, most outgroup stereotypes are mixed (i.e., low ratings on one dimension and high on the other one). Fiske and collaborators compared the means for the four cluster centroids in both samples. The cluster with the highest competence ratings differed significantly from all the other clusters; likewise, the cluster with the highest warmth ratings differed significantly from all the other clusters. Pair *t*-tests revealed a significant difference between these clusters' scores on competence and warmth, a mixed combination according to the authors' definition. Finally, at the level of individual groups, they compared competence and warmth ratings for each of the societal groups evaluated, separately for the student and nonstudent participants. Paired *t*-tests showed that competence and warmth differed significantly for most of the groups in both samples. For instance, rich people, Asians, feminists, and businesswomen were judged to be significantly more competent than warm, while retarded people, housewives, and elderly people were rated as more warm than competent.

Having found evidences for the first two hypotheses, Fiske, Cuddy, Glick, and Xu (2002) turned to social structural predictors of groups' projections in the Competence x Warmth space. Status is considered responsible for competence attributions, while interdependence should determine the degree of groups' warmth. Social groups were evaluated on the social structure predictor scales. Authors first analyzed the relationships between traits and social structure correlates at a group-level, averaging the trait and social structure ratings across participants for each group, and then entering each group's mean ratings for correlational analyses. Secondly, at an individual-level, they examined the correlation between traits and

social structure for the groups, separately for each individual participant (students and non-students) after which the participants' correlation coefficients were averaged within the sample. Results from the two procedures and samples were similar: perceived status was highly correlated with perceived competence; perceived competition negatively correlated with perceived lack of warmth.

The mixed emotional responses hypothesized to differentiate the clusters were addressed in a separate study (Study 4; Fiske, Cuddy, Glick, & Xu, 2002). The authors supported that patronized groups should elicit emotions such as pity and sympathy; high-status, competitive groups should elicit, among others, envy and jealousy; low-status, competitive groups that are perceived as neither competent nor warm, should elicit contempt, disgust, hate, and resentment; finally, successful cooperative groups should elicit pride and admiration. In short, they hypothesized that pity, envy, contempt, and admiration (and related emotions) differentiate the four combinations of perceived warmth and competence. To address the hypothesis, participants rated the social groups emerging from previous studies on 24 emotions; results showed that the predictions of particular emotions as targeting particular clusters, did in fact emerge, as hypothesized (see also Fiske, Cuddy, & Glick, 2002).

4. Further confirmations, applications, and developments of the SCM

The stereotype content model can be considered as a tool for detecting, and hence deepening, cultural stereotypes and prejudices toward different groups. For this reason, many studies have been conducted to examine stereotypes referring to specific groups using the paradigm described above. For instance, Cuddy, Fiske, and Glick (2004) used SCM to explore the way working moms are perceived by US

society, claiming that they risk being reduced either to homemakers (i.e., warm but incompetent), or female professionals (i.e., competent but cold). Cuddy et al. (2004) found that when working women become mothers, they trade perceived competence for perceived warmth, but this does not happen when men become fathers: they gain perceived warmth, maintaining perceived competence. More interestingly, they found that there is less interest in hiring, promoting, and educating working moms in comparison to working dads and childless employees. In another study, Cuddy, Norton, and Fiske (2005) investigated the American stereotype of elderly people. Generally perceived as warm but incompetent (non-competitive, low status), the authors, using data from six non-US countries, demonstrated that elderly stereotypes are consistent across varied cultures. Moreover, they showed the persistence of the evaluatively-mixed nature of the elderly stereotype.

In two studies, Eckes (2002) examined paternalistic and envious gender stereotypes. Building on the stereotype content model, he tested the mixed-stereotypes hypothesis that many gender subgroups are viewed as high in either competence or warmth but low in the other; he additionally addressed the social-structural hypothesis. The results provided strong support for both hypotheses. Since gay men appeared neutral in SCM's studies (i.e., Fiske, Cuddy, Glick, & Xu, 2002), Clausell and Fiske (2005) conducted a gay male subgroups analysis individuating that "feminine" and "masculine" subgroups replicate SCM locations for traditional women and men. SCM apparently generalizes and differentiates gay male subgroups. In a similar vein, Lee and Fiske (2006) used SCM to differentiate immigrant subgroups in the US society. They claimed, in fact, that stereotype research depicts immigrants as incompetent and untrustworthy. However, specifying nationality, race, ethnicity, and class, images of immigrants differ in both competence and warmth,

with most groups receiving ambivalent stereotypes rather than the uniform low–low for the generic immigrant, and better defining immigrant stereotypes and their contingencies.

The model has also been used in cross-cultural research (Cuddy et al., 2007). SCM proposes potentially universal principles of societal stereotypes and their relation to social structure. Using eight European (mostly individualistic) and three East Asian (collectivistic) nations, the authors tested the main hypotheses of SCM, highlighting cross-cultural similarities (i.e., perceived warmth and competence differentiate societal group stereotypes; many outgroups receive mixed stereotypes; high-status groups stereotypically are competent, and competitive groups stereotypically are lacking in warmth), and cross-cultural differences (the more collectivistic cultures do not locate reference groups in the high-high cell). SMC demonstrated to be a pancultural tool for predicting group stereotypes from structural relations with other groups in society, and for comparing across societies.

Glick et al. (2006) investigated, cross-culturally, the attitude toward Americans. On the basis of measures deriving from the stereotype content model, college students in 11 nations indicated their perceptions (personality traits, intentions, and emotional reactions) of the United States. The US was generally perceived as competent but cold and arrogant. Although participants distinguished between the United States' government and its citizens, differences were small. Consistent with the SCM, viewing the United States as intent on domination predicted perceptions of lack of warmth and of arrogance but not of competence and status.

The stereotype content model was furthermore implicated in neurosocial research. Harris and Fiske (2006), using functional magnetic resonance imaging,

investigated brain activations in the medial prefrontal cortex in participants viewing photographs of social groups and of objects, with each picture representing one SCM quadrant. The SCM predicts that only groups that are perceived as both hostile and incompetent (low warmth, low competence), will be dehumanized. Results are in line with such a prediction, showing how extreme groups may be perceived as less than human, or dehumanized. Leslie, Constantine, Fiske, Duncan, and Banaji (unpublished manuscript) extended the Princeton Trilogy (started with Katz and Braly, 1933) including new data, and showing that the stereotypes reported for the Katz and Braly (1933) groups can be differentiated by competence and warmth. Moreover, it seems that ambivalence may moderate modern stereotypes.

Recently, a development of SCM, which "picks up, where the SCM ends", has been proposed: the BIAS Map (Behaviors from Intergroup Affect and Stereotypes. Cuddy, Fiske, & Glick, 2007). The Bias Map is a structural map of negative and positive discriminatory behavioral tendencies and of their associated stereotypes, emotions and social structural relations. The BIAS Map identifies four patterns of discrimination that are the result of the combination of two bipolar dimensions, active/passive and facilitation/harm. These are considered the basic dimensions according to the literature on aggression and on interdependence respectively. Patterns are: active facilitation, passive facilitation, active harm and passive harm. Cuddy and colleagues hypothesize that each combination of warmth and competence is associated with specific intergroup behavioral tendencies, wherein warmth is considered the stereotypical trait responsible for active behaviors (facilitation and harm), whereas competence triggers passive behaviors (facilitation and harm). With reference, to emotions the authors hypothesize that admiration leads to facilitation, both active and passive; instead, contempt leads to harm, both active

and passive. The ambivalent emotions, envy and pity, involve ambivalent patterns of discriminatory behavioral tendencies: envy cues both passive facilitation and active harm, while pity elicits active facilitation and passive harm. Lastly, Cuddy and colleagues assert that prejudiced emotions are not only better predictors of discrimination than stereotypes, but they also act as mediators in the relationship between stereotypes and discriminating behavior. The hypotheses are considerably substantiated by data.

5. Overview of the present research

The stereotype content model is, currently, one of the most important theoretical frameworks of intergroup relations, which has stimulated a wide body of research. The present work intends to contribute in supporting and extending the model in different ways.

The first study, presented in Chapter II, is a replication of Study 2 by Fiske, Cuddy, Glick, and Xu (2002). The study was carried out in the Italian context. Using the same methodological paradigm described above (paragraph 3), a student and a non-student sample were recruited for a pilot study, in order to individuate the social groups considered as the most salient in the Italian society. Then, students and non-students evaluated the groups emerging from the pilot on the SCM dimensions (competence, warmth, status, competition, and cooperation). The model's structure was tested using structural equation modeling. To our knowledge, studies testing SCM's hypotheses in the Italian society do not exist. This was, precisely, the aim of Study 1. SCM, furthermore, allowed us to detect the content of cultural stereotypes,

and the forms of prejudice targeting Italian social groups. This is considered as an important contribution in understanding the social perceptions of intergroup relations among Italians in today's society. Cross-cultural differences and similarities with other societies are also discussed.

Chapter III illustrates the application of SCM to a specific intergroup relations, namely, Northern vs. Southern Italians. Two samples were recruited: one in the North of Italy, one the South of Italy. This study aimed at testing the SCM's hypotheses within a specific, and typically Italian, intergroup relationship. Additionally, this study intended to verify whether a variable of individual difference, such as social dominance orientation (SDO; Sidanius & Pratto, 1999), and ingroup identification (Tajfel, 1981) could negatively influence the perceptions of the outgroup's competence and warmth. Participants evaluated their ingroup (either Northerners or Southerners), and the corresponding outgroup on the SCM's dimensions, filling in, furthermore, the SDO and ingroup identification scales. The goal was to investigate whether moving from general evaluations of social groups toward a more specific intergroup relationship, where groups' members were directly involved, would have confirmed SCM's predictions; or if the aforementioned variables would have intervened, leading participants to different attributions of competence and warmth in comparison with those predicted by the model. Oldmeadow and Fiske (2007) investigated how beliefs in a just world and SDO moderate the association between status and competence. Our studies intend to extend it, taking also into account the role of SDO in the association between interdependence and warmth, and considering, furthermore, the role played by identification.

In Chapter IV a set of three studies is presented. All studies investigated the possibility that the stereotype trait competence may predict status. Linking the SCM with SIT (Social Identity Theory), the role played by ingroup membership in this stereotype-to-social-structure inference is considered. Competence of the target minimal groups (Blues and Greens) was manipulated. Participants evaluated such groups on items measuring SCM dimensions. These studies aimed at reinforcing the model's assumptions: on one hand, showing the strength of the relationship that links status to competence; on the other hand, illustrating the bidirectional relationship of inferences between the stereotypical trait and its socio-structural factor. Additionally, in SCM's studies membership has never been considered. However, in intergroup situations, protecting the in-group as well as achieving positive distinctiveness in comparison with other groups (e.g., Tajfel & Turner, 1979) are important goals that could intervene in the bidirectional inferential process hypothesized above. Exploring the role played by ingroup membership is the further contribution of this set of studies.

A general discussion, linking results reported in Chapter II–IV, concludes the present work.

Chapter II

Study 1. An Italian test of the Stereotype Content Model

In order to test the stereotype content model, the first step was to replicate what is considered the main testing study for SCM, namely, Study 2 by Fiske, Cuddy, Glick, and Xu (2002). To our knowledge no SCM research has been carried out so far in the Italian context. The main goals of the present study were to verify SCM's predictions, to investigate the shared public views of groups held by Italians, to individuate differences and similarities with the North-American society.

1. Pilot Study

The aim of the pilot study was to individuate the societal groups considered the most salient within the Italian society.

Following what was done by Fiske and collaborators, 35 undergraduates from the University of Milano – Bicocca, and 20 non-student Northern Italians volunteered to complete the questionnaire. They were completely unaware of the hypotheses and uninformed about stereotyping research. Using students and non-students was done to reduce biases due to participants' status and age.

Participants completed a self-administered, open-ended questionnaire with the following questions:

a) Off the top of your head, what various types of people do you think Italian society categorizes into groups?

b) What groups are considered to be of very low status by Italian society?

c) What groups, based on the same kinds of criteria used in the first question, do you consider yourself to be a member of?

Most participants finished the questionnaire in less than 10 minutes.

Groups listed by at least 15 percent of participants (students and non-students) were selected. The selection brought about 27 societal groups. Since all the groups mentioned in questions b and c were redundant with those elicited by question a, in Table 2.1 groups are reported with no reference to the questions. The set of groups created in this way was used in Study 1.

Table 2.1. Groups-listing, Pilot Study

Groups	%	Groups	%
Immigrants	74.55	Women	27.27
Rich people	61.82	Entrepreneurs	27.27
Poor people	56.36	Handymen (laborers)	27.27
Unemployed people	52.73	Italians	25.45
Employed people	47.27	Men	25.45
Students	43.64	Crooks (Dishonest people)	21.82
Young people	34.55	Politicians	21.82
Southerners	34.55	Leftists (left-oriented people)	20.00
Middle class people	32.73	Catholic people	18.18
Well educated people	30.91	Outcasts	18.18
Office workers	30.91	Mafiosi	18.18
Northerners	30.91	Rightists (right-oriented people)	18.18
Pensioners	29.09	Disabled people	16.36
Old people	27.27		

Looking at the groups which emerged in the pilot, it seems that participants perceived Italian society as divided into economic categories. Indeed, the majority of the groups listed is represented by people's jobs and financial situation (e.g., entrepreneurs, office workers, unemployed people, rich people, poor people). People are also categorized according to their age, and political orientation. Interestingly, ethnicity is not a common criterion used by participants to categorize Italians. In

contrast to the North-American pilot groups, where ethnic groups are rather numerous (e.g., Asians, Jews, Blacks, Hispanics; Fiske et al., 2002), we only find immigrants as a category based upon ethnicity. A very cultural and uniquely Italian group emerging from the pilot study is Mafiosi. This is an additional proof of SCM's methodological ability to detect cultural groups.

2. Study 1

2.1. Overview of hypotheses

As done by Fiske, Cuddy, Glick, and Xu (2002), we tested what follows:

1. Perceived competence and warmth differentiate group stereotypes.
2. Many stereotypes are ambivalent (or mixed), defined by low ratings on one dimension coupled with high ratings on the other.
3. Stereotypes depict groups as competent when perceived as powerful and high status; stereotypes depict groups as warm when perceived as non competitive with others.

2.2. Method

2.2.1 Participants.

Two samples were recruited.

Students. University of Milano - Bicocca undergraduates (N = 180), recruited from various psychology courses, volunteered to complete the questionnaire (47 male, 130 female, and 3 who did not indicate gender; mean age = 20.84).

Non-students. Forty-one non-students (16 men, 25 women; mean age = 42.29) recruited by undergraduate psychology students, completed the questionnaires in their own home on a volunteer basis. Most of the adults were friends or family of the University of Milano- Bicocca students.

2.2.2 Questionnaire and Procedure

The questionnaire named the same 27 groups listed on the pilot questionnaire. Participants rated these groups on scales reflecting warmth, competence, perceived status, perceived competition. Items were borrowed from Fiske et al. (Study 2, 2002) and translated into Italian. A scale of cooperation (Eckes, 2002) was translated and added to the questionnaire. As previously mentioned, Fiske and collaborators excluded cooperation since in initial pilot studies, cooperation, as they measured it, did not predict warmth. However, in the Fiske et al.'s paper (2002) they mentioned Eckes' study saying that in his work new measures of cooperation were developed, founding evidence that cooperation predicts perceived warmth. This is the reason why we included Eckes' scale of cooperation. All scales and items are reported in Table 2.2.

Participants were instructed to make their evaluations using 5-point scales (1 = *not at all* to 5 = *extremely*). They were moreover instructed to make their ratings on the basis of how the groups are viewed by Italian society. They read, "We are not interested in your personal beliefs, but in how you think they are viewed by Italian society." This instruction was intended to reduce social desirability concerns and to detect perceived cultural stereotypes. To prevent fatigue, participants rated the group list split in half (14 and 13). As claimed by Fiske and colleagues (2002), "because results are analyzed primarily at the group level (i.e., each out-group receives mean

ratings, which are then compared with other groups' mean ratings), randomly assigning different participants to rate different groups and then combining the data sets seemed permissible" (p. 891). Hence, each group was evaluated by 90 participants in the student sample, and by 20/21 participants in the non-student sample. Furthermore, order of presentation was reversed for each list. Four versions of the questionnaire were created, to which participants were randomly assigned.

Table 2.2. Scales, Study 1

Construct	Items
Competence	As viewed by Italian society, how . . . are members of this group? [competent, confident, capable, efficient, intelligent, skilful]
Warmth	As viewed by Italian society, how . . . are members of this group? [friendly, well-intentioned, trustworthy, warm, good-natured, sincere]
Status	How prestigious are the jobs typically achieved by members of this group? How economically successful have members of this group been?
Competition	If members of this group get special breaks (such as preference in hiring decisions), this is likely to make things more difficult for people like me Resources that go to members of this group are likely to take away from the resources of people like me
Cooperation	Does a fair give and take exist between this group and others? How likely is that this group is in a cooperative relationship with others? How much does join progress in society depend on mutual cooperation between this group and others?

Note. For the Competence and Warmth Scales, the points of ellipsis were replaced by the words in brackets for each question.

2.3. Results

To test the SCM's structure, structural equation modelling (SEM) was used. SCM's authors used factor analyses to check the presence of the factors they hypothesized in their data (i.e., competence, warmth, status, and competition). They performed one factor analysis for each group evaluated. Using SEM allowed us to

verify the model's structure for all groups at once, by means of the LISREL program (Jöreskog & Sörbom, 1999).

The goodness of fit was evaluated by the χ^2 test. Satisfactory fits are obtained when the χ^2 test is non-significant. However, this test is particularly sensitive to sample size. Indeed, with small samples, even large discrepancies between the model and the observed data may go undetected. In contrast, with numerous samples, negligible discrepancies may yield significant chi-square values (Bagozzi & Baumgartner, 1994; Bentler, 1990). For such a reason, other indexes, independent from sample size, were taken into consideration as well: Comparative Fit Index (CFI), and the Standardized Root Mean Square Residual (SRMS). Satisfactory model fits are obtained when CFI is greater than or equal to .95, and when the SRMS are less than or equal to .08 (Hu & Bentler, 1999).

Table 2.3 summarizes the means, standard deviations, and Cronbach's alpha reliabilities for all the considered constructs. In all cases, reliabilities were satisfactory. Cronbach's alpha of all constructs was also calculated for each group separately, in both samples. Results are reported in Appendix A.

Table 2.3. Means, standard deviations and reliabilities of construct measures for student and non-student samples.

Scale	Students			Non-Students		
	M	*SD*	α	*M*	*SD*	α
Competence	2.99	0.93	.93	2.98	0.92	.92
Warmth	2.91	0.94	.92	2.81	0.93	.93
Status	2.94	1.19	.87	2.97	1.18	.81
Competition	2.48	1.28	.95	2.51	1.35	.94
Cooperation	3.13	1.00	.77	3.07	1.03	.80

2.3.1. CFA analyses

A confirmatory factor analysis (CFA) was used to test the convergent and discriminant validity of the stereotype content model for both the student and non-student samples. The model included 10 observed variables and 5 latent constructs (see Figure 2.1). The CFA was applied on the covariance matrix. The numerousness used for correlation in the student sample was N = 2341, instead of 2430 (27 groups, each evaluated by 90 participants), due to missing data. For the non-student sample N=547 instead of 567 for the same reason.

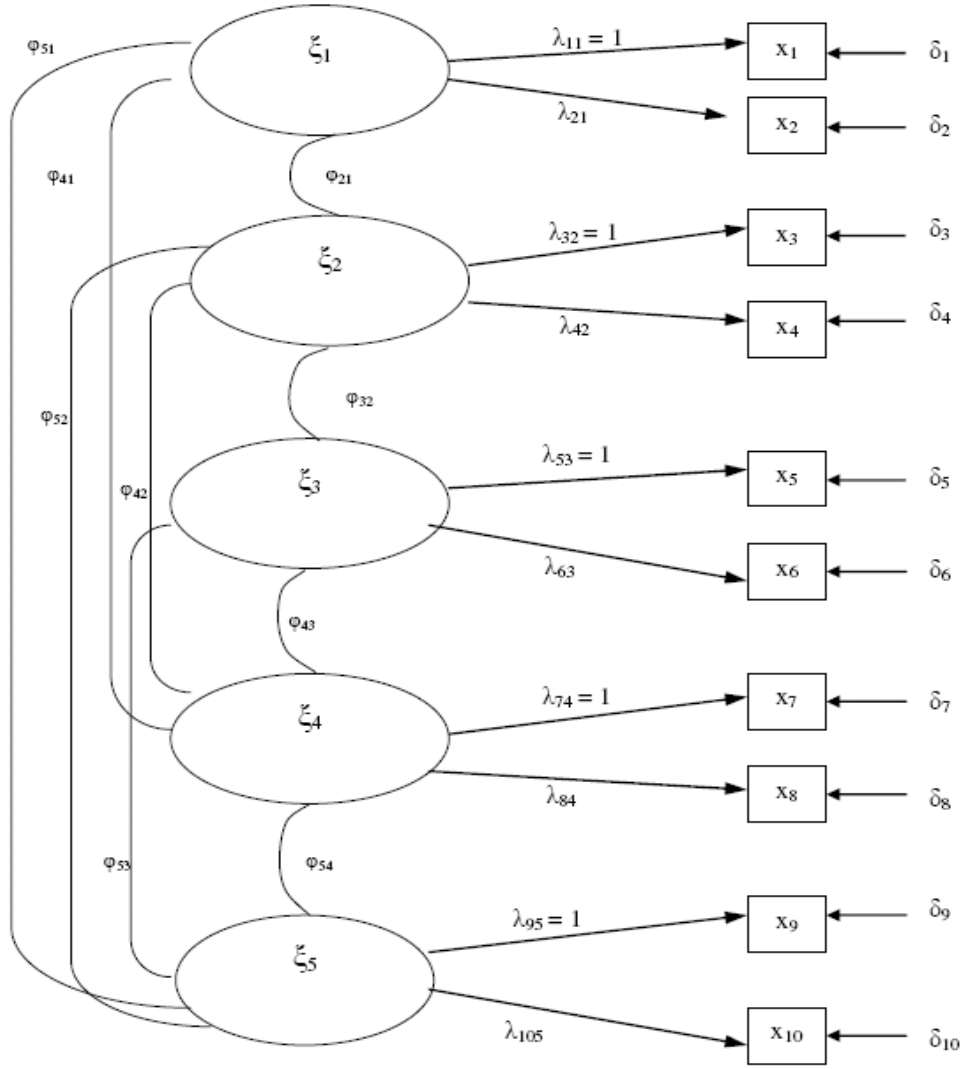


Figure 2.1. Stereotype Content Model: Theoretical model, including cooperation, expressed in terms of LISREL parameters.

Two indicators were used to operationalize each latent construct in both CFAs. For latent constructs where more than two items were available, these were randomly combined to produce two indicators. This procedure, which is called partial disaggregation (e.g., Bagozzi & Edwards, 1998; Bagozzi & Heatherton, 1994), by reducing the number of parameters which must be estimated, is particularly useful with smaller sample sizes to diminish the likelihood of computational problems, and to obtain smaller standard errors. It was hypothesized that each indicator was loaded on the respective factor (see Figure 2.2 and Figure 2.3 for the meaning of the factors and their relations with the observed variables).

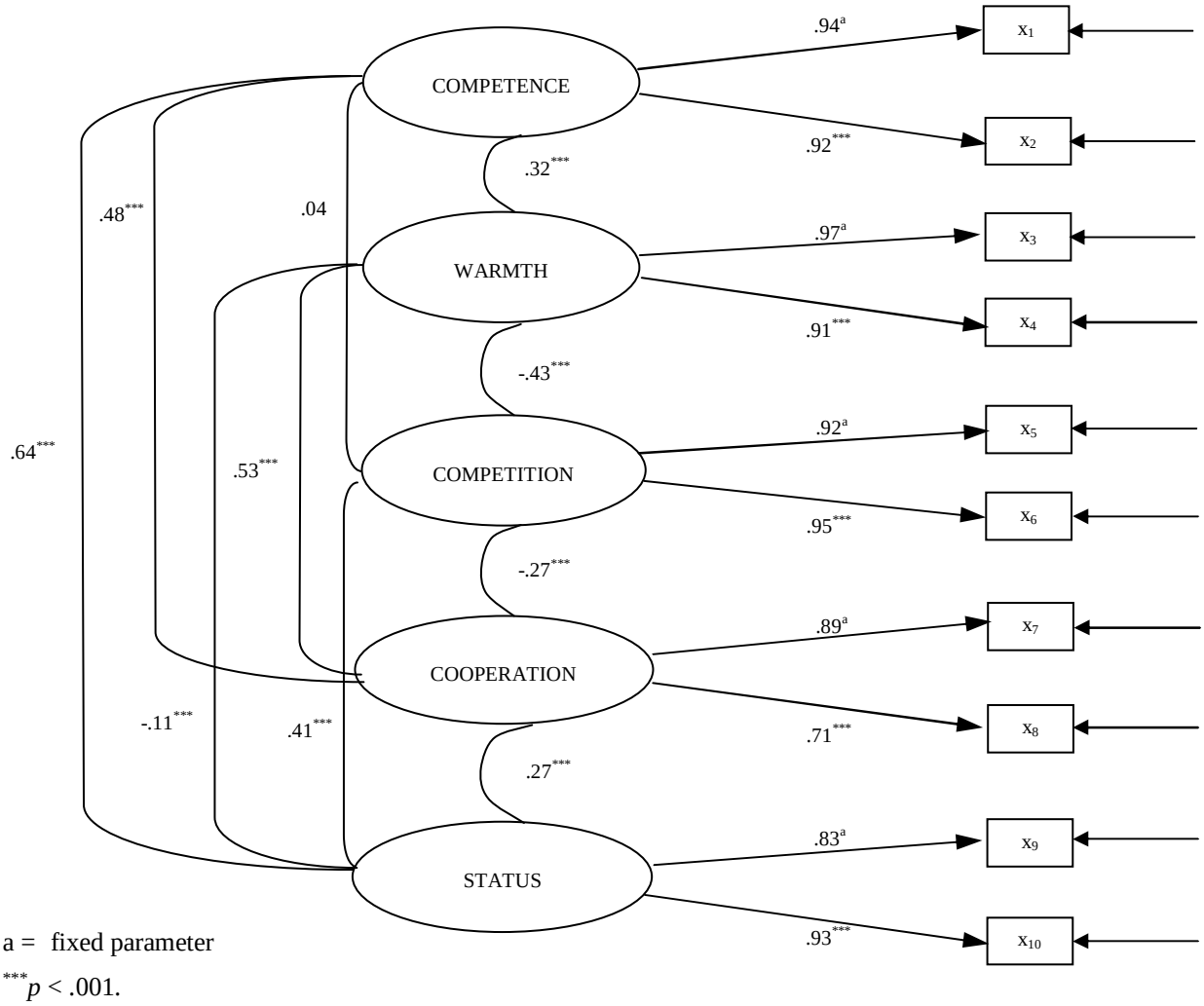
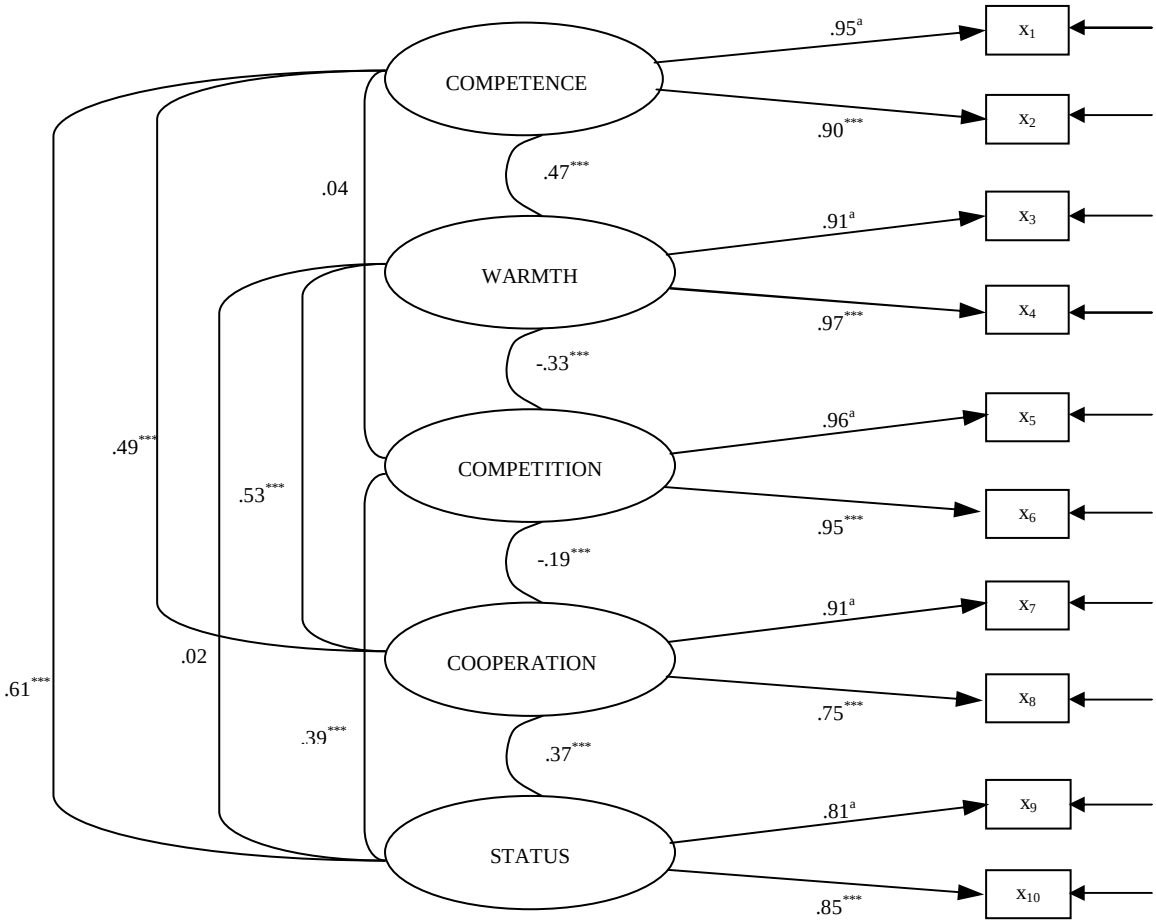


Figure 2.2. Findings for the stereotype content model, completely standardized parameters. Student sample

The CFA run for the student sample obtained the following fit: χ^2 (25) = 592.35, $p < .001$; SRMR = .060; CFI = .97. Even if the chi-square was significant, due to the sample size, the other goodness-of-fit indexes were satisfactory. We ran the same analysis for the non-student sample.



a = fixed parameter

***$p < .001$.

Figure 2.3. Findings for the stereotype content model, completely standardized parameters. Non-student sample

The CFA ran for the non-student sample (Figure 2.3) obtained the following fit: χ^2 (25) = 123.21, $p < .001$; SRMR = .054; CFI = .98. In this case, the goodness-of-fit indexes improved. CFI and SRMR were both satisfactory. Chi-square was significant due to the reasons discussed above.

Fiske and collaborators did not consider cooperation in their studies. For this reason, excluding cooperation from the following analyses seemed appropriate to verify the SCM as originally tested by the authors. Therefore, we decided to exclude the latent construct of cooperation and to run a confirmatory factor analysis for both samples, including, this time, 8 observed variables and 4 latent constructs (see Figure 2.4).

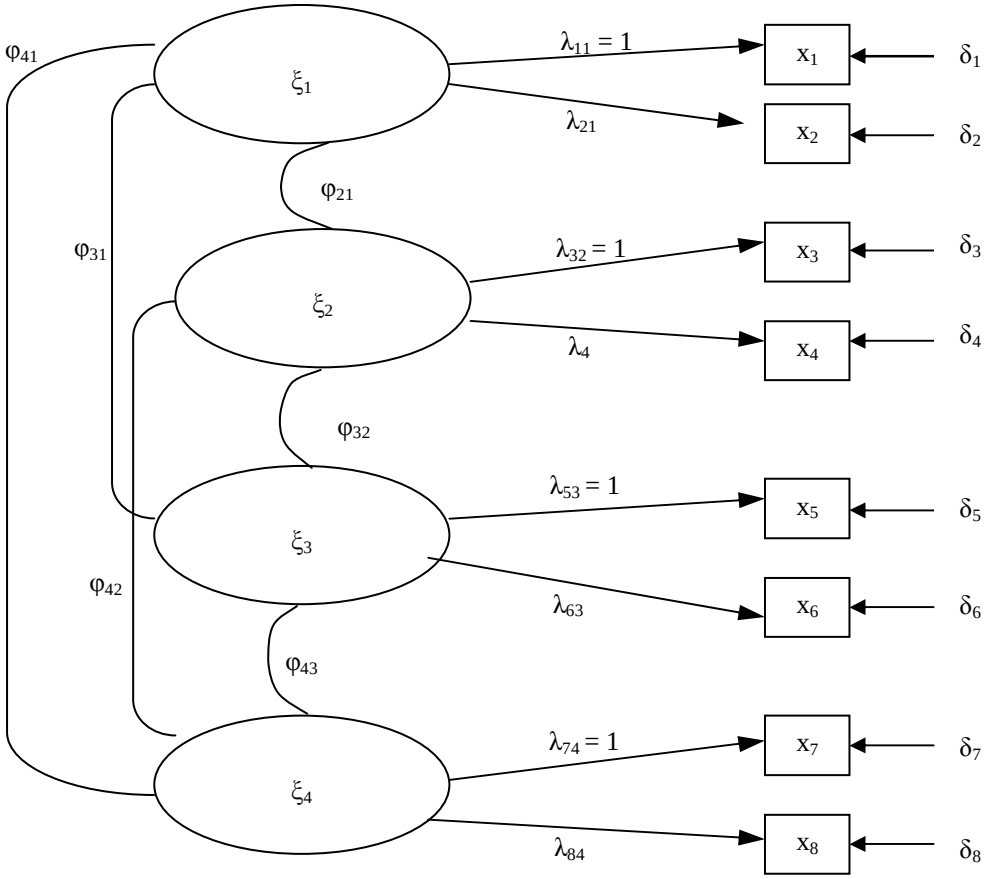
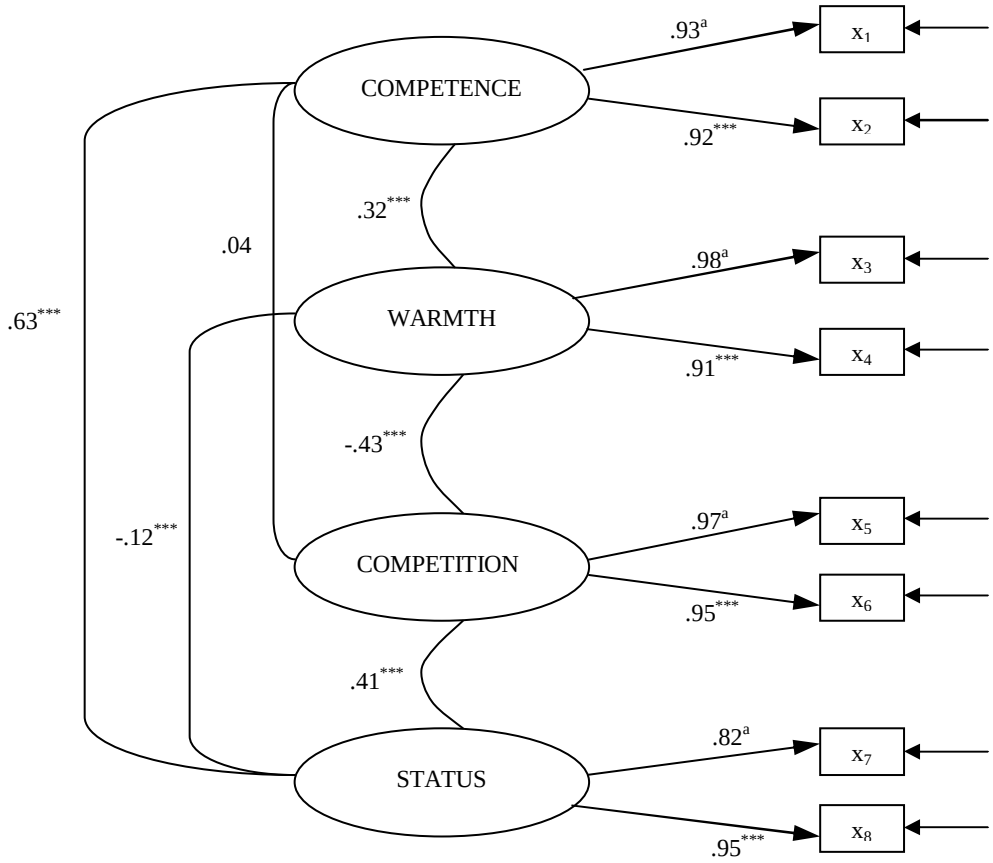


Figure 2.4. Stereotype Content Model: Theoretical model expressed in terms of LISREL parameters. Cooperation excluded.

The CFA ran for the student sample obtained the following fit: χ^2 (14) = 331.83, $p < .001$; SRMR = .051; CFI = .98. Even if the chi-square was significant, the other goodness-of-fit indexes were satisfactory. Moreover, factor loadings were all high and consistent (see Figure 2.5). Convergent validity was achieved since the



a = fixed parameter

*** $p < .001$.

Figure 2.5. Findings for the stereotype content model (cooperation excluded), completely standardized parameters. Student sample.

measures were loaded only on the respective factor. Discriminant validity, instead, emerged from the fact that latent variables showed correlations lower than 1.00 (see Figure 2.5). In fact, for all the correlations, the confidence interval, obtained by considering two standard errors above and two below the estimate correlation (p = .05), did not include the perfect correlation. This analysis confirmed the distinction between all the SCM's dimensions. It also confirmed the two components of stereotype content. Indeed, competence and warmth were correlated (φ = .32, p < .001), but distinct. Moreover, each stereotypic trait was significantly correlated to its socio-structural attribute, in the direction hypothesized by the SCM. Competence

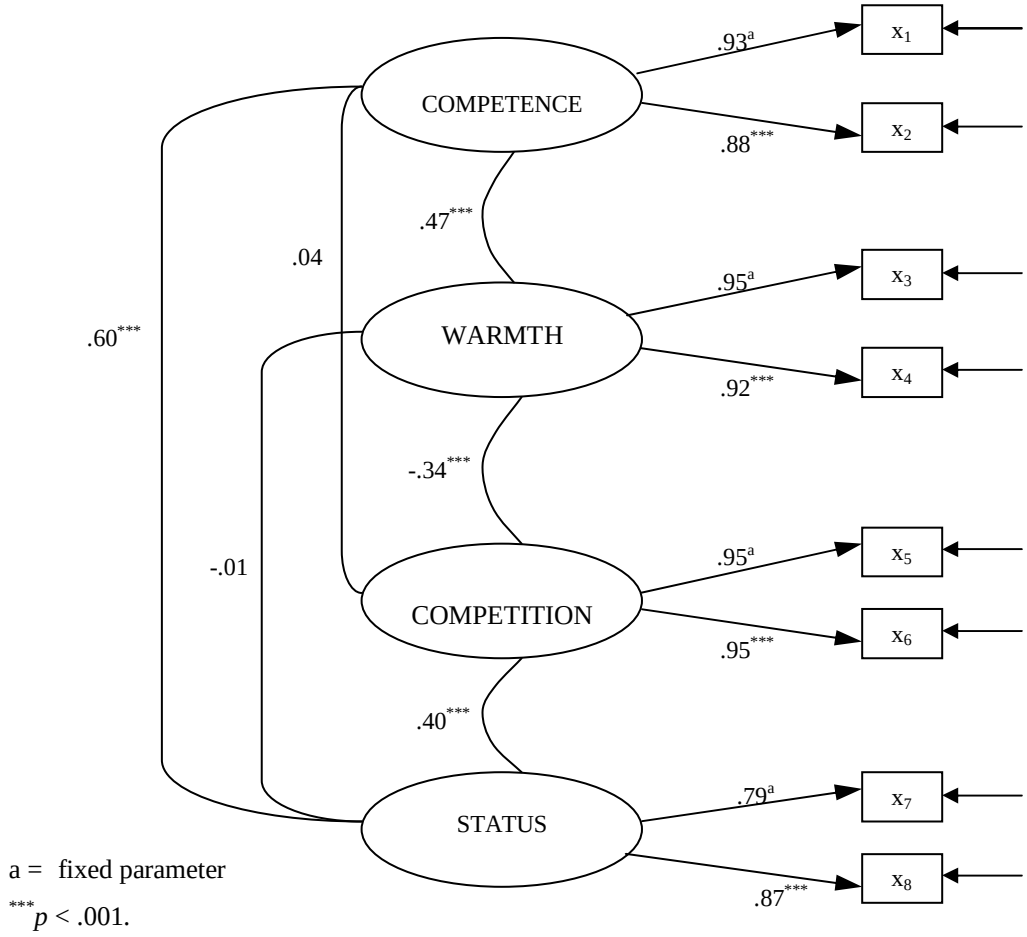
was correlated to status (φ = .63, p < .001), but not to competition. Warmth was negatively correlated with competition (φ = -.43, p < .001), but contrary to SCM's predictions, it was also negatively correlated to status (φ = -.12, p < .001). However, this is not a unique result. Indeed, in Fiske et al. (2002) "[…] an unexpected status–warmth correlation was found" (p. 893). Finally, we found a non-predicted correlation between status and competition (φ = .41, p < .001). According to these results, it seems that the more a group was perceived as successful and with high status, the more it was perceived as competitive.

The same CFA was run for the non-student sample, obtaining a good fit: χ^2 (14) = 69.50, p < .001; SRMR = .049; CFI = .98. Also in the case of non-students, the chi-square was significant. However, the other goodness-of-fit indexes were satisfactory. Results replicated what was found for the student sample (see Figure 2.6): factor loadings were all high and consistent; convergent validity was achieved as well as the discriminant one; all the SCM's dimensions were confirmed; the two components of stereotype content were correlated (φ = .47, p < .001), but distinct; each stereotypic trait was significantly correlated to its socio-structural attribute, competence to status (φ = .60, p < .001), and warmth to competition (φ = -.34, p < .001). In this CFA, warmth was not correlated to status. Again, competition and status resulted correlated (φ = .40, p < .001).

Summarizing, the stereotype content model was confirmed both with a student and a non-student sample.[1] Further confirmations come from confirmatory factor analyses run for each of the 27 groups, separately, in the student sample. Using LISREL, we tested the model with five latent constructs and 10 observed variables (see Figure 2.1). We aimed at detecting the regularity of some relationships emerging

[1] It is worth noticing that, concerning the CFA with four latent variables, PHI coefficients do not change when using all items as indicators of the latent variables, in both samples.

from previous CFAs. Results are reported in Appendix B and concern PHI coefficients. In some cases, the coefficient is omitted since the low reliability of certain scales (e.g., status for the Mafiosi group; see Appendix A) did not allow us to include that variable into the model. A very interesting relationship is the one that



2.6. Findings for the stereotype content model (cooperation excluded), completely standardized parameters. Non-student sample

connects competence to status. In 18 out of 23 cases (4 PHI coefficients are omitted) we found a significant and high correlation between these two variables. This result strongly corroborates the SCM's socio-structural hypothesis concerning status. The model does not hypothesize a relationship between competence and competition. In fact, we found only six significant correlations (out of 27) between these two

variables. However, competence resulted correlated with cooperation in 16 out of 22 cases, which is a relationship not hypothesized by the SCM. Concerning warmth and interdependence, the negative relationship with competition predicted by the model was significant only in 9 cases out of 27, while we found 17 (out of 22) positive correlations between warmth and cooperation. The socio-structural hypothesis concerning interdependence seems confirmed if cooperation, but not competition is taken into consideration. The model does not hypothesize a relationship between warmth and status: the two variables resulted positively correlated 8 times, and negatively correlated one time (out of 23). This result shows that the stereotypic trait has a stronger relationship with interdependence than status, particularly with cooperation. It is also worth noticing the link between competence and warmth, which resulted highly and positively correlated in 24 out of 27 cases. Finally, cooperation and competition seem to be orthogonal dimensions. In fact, they correlated in only 8 cases out of 22.

2.3.2. Testing Hypothesis 1

The first hypothesis, namely, that stereotypes of groups fall along dimensions of competence and warmth, was addressed following the procedure used by the authors of SCM and illustrated in Chapter 1 (paragraph 3). For each of the 27 groups, the means of competence and warmth were calculated across participants, for both samples separately. According to these means, the 27 groups arrayed on a two-dimensional Competence x Warmth space. Then, two types of cluster analysis were run. A hierarchical cluster analysis (Ward's method, which minimizes within-cluster variance) helped us in determining the best fitting number of clusters. The agglomeration statistics from the hierarchical analysis pointed to a four-cluster

solution as the best fit for the 27 groups for both samples. Then, a *k*-means cluster analysis was run in order to examine which groups fit into which cluster.

For both the student sample (see Figure 2.7) and the non-student sample (see Figure 2.8), one cluster comprised five groups: outcasts, politicians, unemployed people, immigrants, poor people. This cluster was stable across samples. Another cluster comprised 12 groups: women, middle class, Catholic people, office workers, Italians, old people, handymen, leftists, pensioners, Southerners, students, young people, disabled. For both samples, these were groups that clustered together. The non-student sample added to this cluster employed people. Another cluster also included, for both students and non-students, five groups: Northerners, well-educated people, entrepreneurs, men, rightists. Students added rich people and employed people. The final cluster included two groups that consistently appeared together across samples: crooks and Mafiosi. The non-student sample added to this cluster rich people. In short, competence and warmth dimensions differentiated among four stable clusters that meaningfully and reliably accounted for the 27 groups across samples.

2.3.2. Testing Hypothesis 2

According to Fiske and collaborators (2002), the majority of societal stereotypes are mixed (or ambivalent). They define the stereotype content as mixed when low ratings on one dimension (either warmth or competence) are coupled with high ratings on the other. As done by the authors, to address this hypothesis, the four clusters' centroids have been compared (see Table 2.4). In both samples, the cluster with the highest competence ratings (students M= 3.77, SD= 0.35; non-students M= 3.68, SD= 0.33) is the one that reliably contains Northerners, rightists, well-educated

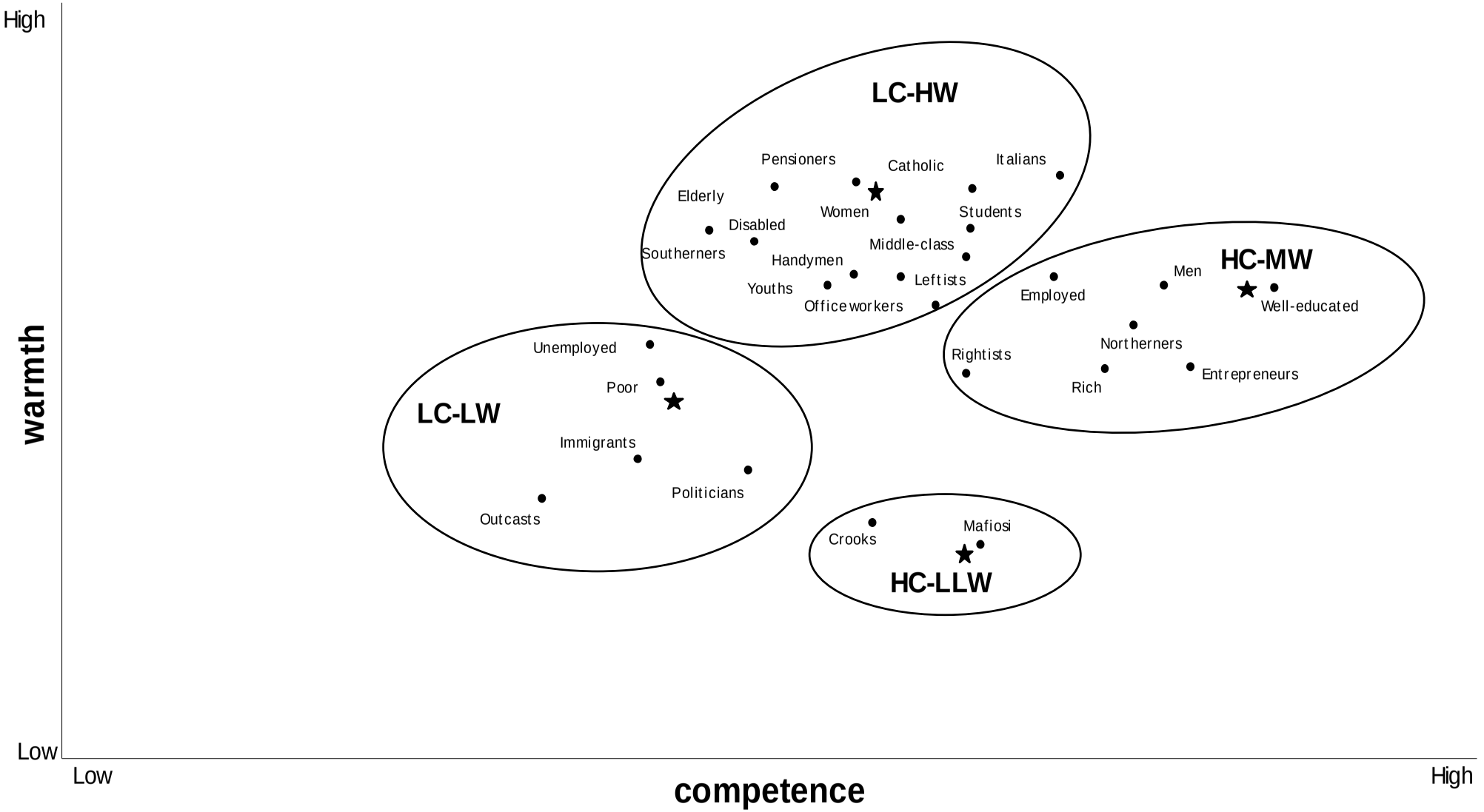


Figure 2.7. Four-cluster solution, student sample.

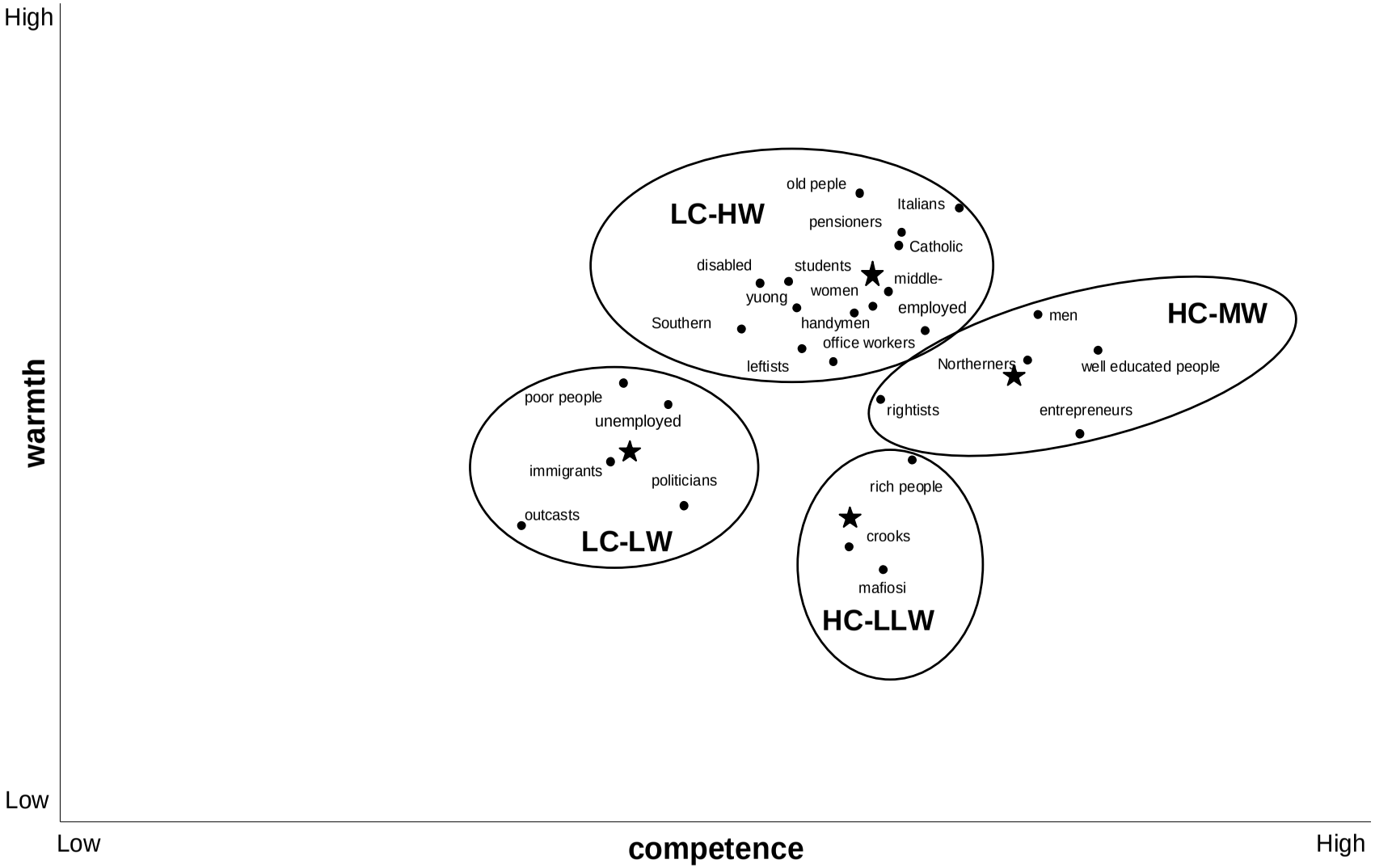


Figure 2.8. Four-cluster solution, non-student sample.

people, entrepreneurs, men. In the student sample, for this cluster the competence score differed significantly from that of Cluster 1 and Cluster 2 (*M*s= 2.08 and 2.91, *p*s < .001). While, in the non-student sample, the competence mean of the same cluster differed significantly from that of all the other clusters (*M*s= 2.14 to 3.14, *p*s < .05). Paired *t*-tests revealed a significant difference between this cluster's scores on competence and warmth (students *M*= 2.86, *SD*= 0.29; non-students *M*= 2.75, *SD*= 0.28): for students, t (6) = 6.66, p =.001; for non-students, t (4) = 5.30, p < .01. In both samples, this cluster was higher in competence than in warmth: a mixed combination according to Fiske et al.'s definition. The cluster with the highest warmth rating (students *M*= 3.46, *SD*= 0.28; non-students *M*= 3.26, *SD*= 0.31) was the one that reliably contained women, middle class, Catholic people, office workers, Italians, old people, handymen, leftists, pensioners, Southerners, students, young people, disabled. In both samples, this cluster's score of warmth differed significantly from that of all the other clusters (student *M*s= 1.48 to 2.86, non-students *M*s= 1.81 to 2.75; *p*s < .01). Warmth scores were significantly higher than competence scores (students *M*= 2.91, *SD*= 0.35; non-students *M*= 3.01, *SD*= 0.25) for the exemplars of this cluster: students t(12) =-4.72, p < .001; non-students t(13) = -3.17, p < .01. For both samples, this cluster was higher in warmth than in competence: once again, a mixed combination.

Contrarily to North-American results, we found another mixed cluster that reliably across samples includes crooks and Mafiosi. This is not the cluster with the highest competence ratings (students *M*= 3.06, *SD*= 0.27; non-students *M*= 3.14, *SD*= 0.12), but it is the cluster with the lowest warmth ratings (students *M*= 1.48, *SD*= 0.10; non-students *M*= 1.81, *SD*= 0.35). Moreover, paired *t*-tests revealed a significant difference between this cluster's scores on competence and warmth. Given the fact that

the groups included in such a cluster were only two (three for non-students), the difference between competence and warmth was tested using participants as a unit of analysis for both samples: students, t (89) = 22.61, p <.001; non-students t (20) = 10.07, p < .001.

Table 2.4. Competence and Warmth Means for each cluster

	Clusters	Students			Non-Students		
		Competence		Warmth	Competence		Warmth
1.	Outcasts, Politicians, Unemployed people, Immigrants, Poor people (stable cluster across sample)	2.08_{c}	=	2.16_{c}	2.14_{c}	=	2.23_{cb}
2.	Women, Middle class, Catholic people, Office workers, Italians, Old people, Handymen, Leftists, Pensioners, Southerners, Students, Young people, Disabled (the non-students added Employed people)	2.91_{b}	<	3.46_{a}	3.01_{b}	<	3.26_{a}
3.	Northerners, Well-educated people, Entrepreneurs, Men, Rightists (students added Rich people and Employed people)	3.77_{a}	>	2.86_{b}	3.68_{a}	>	2.75_{c}
4.	Crooks –Dishonest people, Mafiosi * (non-students added Rich people)	3.06_{ab}	>	1.48_{c}	3.14_{b}	>	1.81_{b}

Note. Groups clustered reliably across samples, except for the variants noted parenthetically. See text for details of cluster membership.
Within each row, within each sample, means differ (p < .05) if > or < is indicated.
* In the fourth cluster, the difference between competence and warmth has been verified using the number of participants as unit of analysis for both samples.

As for North-American results, the majority of groups fell in the mixed clusters. Of 27 groups, the three mixed clusters contained 22 groups both for the student and non-student samples. As suggested by Fiske, Cuddy, Glick, and Xu (2002), a substantial number of societal groups did not fit the pure antipathy hypothesis. However, a cluster

seems to fit that hypothesis, that is, the cluster that reliably across samples contains outcasts, politicians, unemployed people, immigrants, poor people. This cluster reliably scored low on both competence (students *M*= 2.08, *SD*= 0.26; non-students *M*= 2.14, *SD*= 0.24) and warmth (students *M*= 2.16, *SD*= 0.43; non-students *M*= 2.23, *SD*= 0.38), and the two dimensions did not differ significantly for both samples, *t*s < 1.

Table 2.5. Mean Paired Differences (Competence – Warmth) for student and non-student samples

Groups	Students	Non-students
1 Northerners	0.928 ***	0.875 ***
2 Women	-0.587 ***	-0.05
3 Well educated people	1.178 ***	1.075 ***
4 Middle class	-0.106	-0.083
5 Outcasts	-0.011	-0.05
6 Entrepreneurs	1.401 ***	1.525 ***
7 Catholic people	-0.544 ***	-0.317
8 Politicians	0.533 ***	0.45 *
9 Office workers	0.092	0.142
10 Unemployed people	-0.646 ***	-0.233
11 Italians	-0.32 ***	-0.325 *
12 Crooks	1.324 ***	1.323 ***
13 Old people	-1.2521 ***	-0.787 ***
14 Handymen	-0.402 ***	-0.077
15 Immigrants	0.073	-0.094
16 Men	0.771 ***	0.629 ***
17 Leftists	-0.223 **	-0.056
18 Employed	0.326 ***	0.302 *
19 Mafiosi	1.839 ***	1.603 ***
20 Pensioners	-1.003 ***	-0.397 *
21 Rightists	0.652 ***	0.548 ***
22 Southerners	-0.963 ***	-0.413 *
23 Students	-0.297 ***	-0.524 ***
24 Young people	-0.417 ***	-0.333 *
25 Rich people	1.121 ***	1.048 ***
26 Disabled	-1.194 ***	-0.619 ***
27 Poor people	-0.354 ***	-0.532 **

Note. Means of paired differences (competence rating – warmth rating) are reported.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Finally, at the level of individual groups, paired *t*-tests examined differences between competence and warmth ratings for each of the 27 groups, separately for student and non-student participants. Competence and warmth ratings differed significantly for 23 groups in the student sample and for 18 groups in the non-student sample (see Table 2.5). Groups perceived as more competent than warm were 10 in both samples: Northerners, well-educated people, entrepreneurs, crooks, men, employed people, Mafiosi, rightists, rich people, politicians. For students 13 groups, and for non-students 8 groups, were perceived to be more warm than competent: women, Catholic people, unemployed people, Italians, old people, handymen, leftists, pensioners, Southerners, students, young people, disabled people, and poor people. Summarizing, roughly three quarters of the 27 groups showed consistently mixed stereotypes across samples and methods of analysis.

2.3.3. Testing Hypothesis 3

The third hypothesis states that groups are perceived as competent to the extent that they are perceived as powerful and high status, and vice versa; groups are perceived as warm to the extent that they are perceived as not competing with others, and vice versa.

Instead of using correlational analysis, as done by the authors of the stereotype content model, we used regression analysis to address the socio-structural hypothesis. We ran the same analyses for both samples. We will illustrate first results concerning the student sample.

To test the predictive power of status, we ran a hierarchical regression analysis, with competence as a dependent variable, and status, competition and cooperation as

independent variables. We decided to enter all the socio-structural attributes as a further test of the stereotype content model's structure. We entered independent variables in blocks into the regression equation, computed the incremental *F* test of the difference in R^2 between the blocks of variables, and examined whether there was a significant change in the total R^2 after each new set of predictors was added to the model (Cohen & Cohen, 1983). The order of entry was as follows. At Step 1, the status variable was entered into the model. At Step 2, status and competition were entered. At Step 3, status, competition, and cooperation were entered.

Table 2.6. Hierarchical regression analysis for variables predicting Competence, Student sample.

		R^2	R^2 changes	*F* change	*F* change *p* <	β	*t*	*p*<
Step 1		.36	.36	1346.37	.001			
	STATUS					.601	36.69	.001
Step 2		.39	.03	122.79	.001			
	STATUS					.666	39.14	.001
	COMPETITION					-.189	-11.08	.001
Step 3		.44	.05	195.39	.001			
	STATUS					.576	32.69	.001
	COMPETITION					-.097	-5.53	.001
	COOPERATION					.239	13.98	.001

Note. The hierarchical regression analysis was run at individual participant level (*N*=2,430).

Results are shown in Table 2.6. As hypothesized by the SCM, status resulted a predictor of competence. However, when entering competition (Step 2), the variation in *F* was significant at $p < .001$, indicating that competition was also a significant predictor. Finally, at Step 3, the variation in *F*, occurring by the entrance of cooperation into the regression equation, was significant as well ($p < .001$). These results indicate that all three predictors had an impact on the level of competence. Nevertheless, status resulted the best predictor: the higher the status was perceived, the higher was the

competence attributed. Moreover, the more a group was perceived as cooperative, the more it was evaluated as competent. Finally, the more a group was perceived as a competitor, the less it was judged as competent (Table 2.6).

A hierarchical regression analysis was run as well on warmth to test the socio-structural hypothesis concerning interdependence. Also in this analysis, all the socio-structural attributes were entered as follows: at Step 1 competition; at Step 2 competition and status; at Step 3 competition, status, and cooperation.

Table 2.7. Hierarchical regression analysis for variables predicting Warmth, Student sample.

		R^2	R^2 change	*F* change	*F* change *p* <	β	*t*	*p*<
Step 1		.15	.15	434.71	.001			
	COMPETITION					-.393	-20.85	.001
Step 2		.16	.01	28.55	.001			
	COMPETITION					-.430	-21.53	.001
	STATUS					.107	5.34	.001
Step 3		.32	.15	540.01	.001			
	COMPETITION					-.263	-13.54	.001
	STATUS					-.059	-3.06	.002
	COOPERATION					.437	23.24	.001

Note. The hierarchical regression analysis was run at individual participant level (*N*=2,430).

As illustrated in Table 2.7, all three predictors entered had an impact on the level of warmth. In fact, the changes in *F* were all significant, at $p < .001$, after each new predictor was added to the model. The best predictor of warmth was cooperation; more specifically, the more cooperative the group was perceived, the higher was the level of warmth attributed to it. Competition had an impact on warmth, but in the opposite direction, that is the more competition was perceived, the less warmth was attributed. Finally, and contrary to SCM predictions, the higher the status was perceived, the lower degree of warmth was attributed.

So far, we found empirical evidences for SCM's Hypothesis 3. We also found new effects not predicted by the model. However, we went further, investigating the socio-structural hypothesis within each ambivalent cluster. As illustrated above (see Table 2.4), the cluster with the highest competence ratings included Northerners, well-educated people, entrepreneurs, men, rightists, rich people, and employed people. This cluster's competence differed significantly from that of Cluster 1 and Cluster 2, and a significant difference between this cluster's scores on competence and warmth was found. In other words, this cluster was higher in competence than in warmth: a mixed combination by Fiske et al.'s definition. To investigate which variable could better account for such a mixed combination within Cluster 3, a hierarchical regression analysis was run on the difference between competence and warmth (Competence – Warmth). Independent variables were entered as follows: at Step 1 competition and status; at Step 2 competition, status and the interaction between these two variables (status*competition). For the latter independent variable, scores for status and competition were centered by subtracting the mean. This procedure reduces problems of multicollinearity among predictor variables when computing interaction terms (Jaccard, Turrisi, & Wan, 1990).

As illustrated in Table 2.8, status is the only variable accounting for the difference between competence and warmth within Cluster 3. In fact, the *F* variation, when entering the interaction between status and competition at Step 2, was non-significant ($F < 1$).

Another cluster, Cluster 4, resulted ambivalent (or mixed). As said before, this is not the cluster with the highest competence rating, but with the lowest warmth rating,

Table 2.8. Hierarchical regression analysis for variables predicting Competence – Warmth in Cluster 3, Student sample.

		R^2	R^2 change	*F* change	*F* change *p*	β	*t*	*p*
Step 1		.19	.19	74.03	.001			
	COMPETITION					.034	0.90	.366
	STATUS					.428	11.28	.001
Step 2		.19	.00	0.51	.476			
	COMPETITION					.076	1.09	.277
	STATUS					.435	11.11	.000
	STATUS*COMPET					-.052	-0.71	.476

Note. To prevent fatigue, participants rated the group list split in half (14 and 13). Therefore, each group was evaluated by 90 participants in the student sample. The hierarchical regression analysis was run at individual participant level (*N*=621).

and it included Mafiosi and crooks. Analyses revealed a significant difference between this cluster's scores on competence and warmth. Hence, a hierarchical regression analysis was run to address the difference between competence and warmth within Cluster 4. Independent variables were entered as before. Table 2.9 illustrates the results. The variation in *F* at Step 2 was non-significant (*F*<1). This means that the interaction between status and competition did not affect the dependent variable. More interestingly,

Table 2.9. Hierarchical regression analysis for variables predicting Competence – Warmth in Cluster 4, Student sample.

		R^2	R^2 change	*F* change	*F* change *p*	β	*t*	*p*
Step 1		.08	.08	7.69	.001			
	COMPETITION					.203	2.65	.009
	STATUS					.143	1.87	.063
Step 2		.08	.00	0.27	.605			
	COMPETITION					.206	2.68	.008
	STATUS					.102	0.92	.361
	STATUS*COMPET					.055	0.52	.605

Note. To prevent fatigue, participants rated the group list split in half (14 and 13). Therefore, each group was evaluated by 90 participants in the student sample. The hierarchical regression analysis was run at individual participant level (*N*=178).

results showed that the only predictor of the difference between competence and warmth in Cluster 4 was competition. However, also status had a marginally significant effect.

Finally, Cluster 2 is the cluster with the highest warmth rating; it contained women, middle class, Catholic people, office workers, Italians, old people, handymen, leftists, pensioners, Southerners, students, young people, disabled. This cluster's score of warmth differed significantly from that of all other clusters, and it was higher in warmth than in competence (mixed combination). For this cluster, a hierarchical regression analysis was run on the difference between warmth and competence (Warmth – Competence). Independent variables were entered as before. As shown in Table 2.10, the variation in *F* at Step 2 was non-significant, and status was the only variable that predicts the difference between warmth and competence within Cluster 2: the higher the status, the lower the warmth assigned to the group.

Table 2.10. Hierarchical regression analysis for variables predicting Warmth – Competence in Cluster 2, Student sample.

		R^2	R^2 change	*F* change	*F* change *p*	β	*t*	*p*
Step 1		.15	.15	99.12	.001			
	STATUS					-.381	-13.90	.001
	COMPETITION					-.018	-0.671	.502
Step 2		.15	.00	2.66	.104			
	STATUS					-.399	-13.50	.001
	COMPETITION					-.033	-1.14	.253
	STATUS*COMPET					-.051	-1.62	.104

Note. To prevent fatigue, participants rated the group list split in half (14 and 13). Therefore, each group was evaluated by 90 participants in the student sample. The hierarchical regression analysis was run at individual participant level (*N*=1,151).

As said previously, the authors of the stereotype content model considered predominantly the socio-structural attribute of competition (Fiske, Cuddy, Glick, & Xu, 2002; see also, Cuddy, Fiske, & Glick, in press). Table 2.6 and Table 2.7, however,

showed the relevant role played by cooperation. For this reason, we ran hierarchical regression analyses for ambivalent clusters entering also cooperation (at Step 1) and its interaction with status (at Step 2) as predictors, keeping in the regression all the variables considered above. Results did not bring about any significant effect of cooperation and of its interaction with status on the dependent variable (either the difference between competence and warmth, Cluster 3 and 4, or between warmth and competence, Cluster 2).

Table 2.11. Hierarchical regression analysis for variables predicting Warmth, Non-student sample.

		R^2	R^2 change	*F* change	*F* change $p <$	β	*t*	*p*
Step 1		.10	.10	61.28	.001			
	COMPETITION					-.317	-7.83	.001
Step 2		.12	.02	12.22	.001			
	COMPETITION					-.366	-8.62	.001
	STATUS					.148	3.50	.001
Step 3		.29	.17	133.57	.001			
	COMPETITION					-.218	-5.43	.001
	STATUS					-.037	-0.91	.365
	COOPERATION					.459	11.56	.001

Note. The hierarchical regression analysis was run at individual participant level (*N*=553).

Results concerning the non-student sample generally replicated what was found for the student sample. However, as shown in Table 2.11, status had no impact on warmth, but, once again, cooperation is its best predictor, followed by competition. Finally, none of the independent variables entered in the regression equation (i.e., status, competition, status*competition) predicted the difference between competence and warmth in Cluster 4.

3. Discussion

Study 1 aimed at testing the stereotype content model within the Italian society. Replicating what was done by Fiske and collaborators (2002), the pilot study allowed us to individuate 27 societal groups considered by participants as salient groups in today's Italian society. As noted earlier in the chapter, the list of groups provides us with interesting information concerning the Italian society. First of all, it seems that the most used criterion to categorize individuals is their socio-economic position in the society. Rich vs. poor, employed vs. unemployed, entrepreneurs vs. handymen: more than 40% of the listed groups are indeed socio-economic categories (see Table 2.1). Other criteria used by participants are age (young vs. old people), gender (men vs. women), and political orientation (leftists vs. rightists). Ethnicity emerged as a criterion only with reference to one group, namely, immigrants. Finally, results brought about a typically Italian group: Mafiosi. This group has never been found in previous SCM studies. We consider this unique result as an additional evidence of SCM as a useful tool for detecting cultural categorizations. However, there is also a general overlap between the Italian and the North-American data. In fact, groups such as middle-class, rich, poor, disabled, students, men, women and others emerged in both countries. The most interesting difference, though, concerns the salience of ethnic groups in the US results. With respect to the Italian ones, where ethnic groups are not mentioned, North-American participants considered race as an important dimension of categorization. Of 24 groups (Pilot Study for Study 2, Fiske, Cuddy, Glick, & Xu, 2002), more than 30% were ethnic groups (e.g., white, black, Hispanic).

Study 1's core concerns the evaluation of the groups emerging from the pilot study on the SCM's dimensions (cooperation included). First of all, structural equation modelling (CFA) allowed us to verify the model's structure in both the student and the non-student samples. This technique allowed us to test the discriminant and convergent validity of the measures, highlighting also the relationships between constructs. Results illustrated the importance of cooperation, showing how strongly this type of interdependence is linked to warmth. It is worth noticing, in fact, that warmth is more robustly correlated to cooperation than to competition. This result consistently appeared also when CFA was run on each of the 27 groups. Similarly, status was strongly correlated to competence. The result was constantly found in both samples, for both models (with four and five latent constructs), and for 18 groups out of 23.

Study 1 tested the three main hypotheses underlying SCM. Results showed that competence and warmth differentiated groups, and that the majority of group stereotypes included mixed attributions of such traits. Cluster analyses, furthermore, highlighted four clusters that reliably accounted for the 27 groups across samples. These results corroborated the first two hypotheses, providing us with interesting information concerning the societal view held by Italians. In fact, *post-hoc* analyses revealed a contemptuous prejudice targeting outcasts, unemployed people, immigrants, poor people, and politicians. With the exception of politician, this result is consistent with what was hypothesized by SCM. The fact that politicians are the object of contempt reflects a common view held by Italians, widely shared especially in today's Italian society. Women, middle class, Catholic people, office workers, Italians, old people, handymen, leftists, pensioners, Southerners, students, young people, and disabled are instead targets of paternalism. Among these groups, most of which fall into the predicted

cluster, there are three ingroups that unexpectedly are the object of a paternalistic prejudice: Italians, Catholic people, students. In the US data, ingroups and reference groups fell into the admiration cluster (Fiske et al., 2002). In other countries (an exception is represented by the collectivistic cultures, where no admiration cell was found; see Cuddy et al., 2007), ingroups generally received high evaluations on both competence and warmth. In Italy, and especially with reference to the national group, contributions from different fields (i.e., history, sociology, anthropology) delineated a self-stereotype held by Italians as characterized by ambivalence: a mixture of realism and pessimism, artistic sensitivity and lack of civic respect (among others, see Bollati, 1983; Nevola, 2003; Romano, 1994; Sciolla, 2004; Volpato, Durante, & Cantone, 2007). Hence, once again, this result finds an explanation in the Italian culture. Conversely to US results, Italian data showed no admiration cluster. Finally, two clusters both higher on competence than warmth were found. According to the SCM taxonomy of prejudice (see Chapter I), both these clusters contain envied groups. One cluster included reliably across samples Northerners, well-educated people, entrepreneurs, men, rightists. The other one clustered together Mafiosi and crooks. The latter cluster had the lowest score on warmth, but did not differ on competence with the former one. How could we explain envious stereotypes attributed to Mafiosi and crooks if not through culture?

The third hypothesis was widely corroborated. In fact, status resulted the best predictor of competence, while interdependence allowed inferences concerning warmth. However, new, unexpected findings emerged. First of all, regression analyses showed that all socio-structural attributes had an impact on both competence and warmth. More precisely, the more a group was perceived as cooperative, the more it was perceived as competent; the more competition was perceived, the less competence was attributed.

Additionally, the best predictor of warmth resulted to be cooperation. Competition had a weaker impact on warmth, and in the opposite direction. Furthermore, contrary to the SCM's predictions, the higher the status, the lower the degree of warmth attributed. Within ambivalent clusters, results showed that status accounted for the difference between competence and warmth (or vice versa) in two out of three ambivalent clusters. More interestingly, the perception of competition accounted for the difference between stereotypic traits in the cluster containing Mafiosi and crooks. Hence, though in our results two clusters could be considered as clusters of envy by Fiske et al.'s definition, an important difference has to be taken into consideration. In one cluster, status was responsible for the higher score of competence than warmth, as predicted by the model; in the other cluster, the negative interdependence accounted for such scores. This is inconsistent with the model, but consistent with the Italian context.

Summarizing, Study 1 corroborated the stereotype content model. Analyses showed the existence of all the SCM's dimensions. The main hypotheses were verified. The link between socio-structural attributes and the stereotype content was substantiated. Additionally, empirical evidences concerning the role played by cooperation were found. Finally, a consistent and well-defined cultural picture of modern Italy emerged.

Chapter III

Study 2. Applying the SCM to a specific intergroup relationship: Northern vs. Southern Italians

Chapter III illustrates the application of the stereotype content model to a specific intergroup relationship, involving, as participants, members of these groups. As said previously, the SCM is a sensitive tool for detecting cultural stereotypes. One of the most salient cultural intergroup relationships within the Italian society is Northerners vs. Southerners. The pilot study conducted for Study 1, elicited these two groups among those considered as the most salient in the Italian context. Moreover, the cluster analyses applied to Study 1's data showed how Northerners and Southerners arrayed in different clusters, namely, higher competence than warmth for the former, higher warmth than competence for the latter. Therefore, we chose these two groups for our investigation, aimed at testing the SCM's predictions within a specific, and typically Italian intergroup relationship.

According to the SCM's socio-structural hypothesis, the evaluations of competence and warmth mentioned above occur because Northerners are perceived as high status, while Southerners are perceived as a group of lower status, and because one group is perceived as more competitive (i.e., Northerners) than the other one (i.e., Southerners). One of the research questions addressed in the present chapter is: would

the perceptions of structural attributes and their related stereotypic traits remain the same when judgments are expressed by group members? And if not, which variables could account for such variations? For this reason, the present study intends to verify whether two variables, namely, social dominance orientation and ingroup identification, could negatively influence the perceptions of the outgroup's competence and warmth. Recently, international literature has emphasized the topic of legitimizing ideologies, that is the set of beliefs, attitudes, values, and stereotypes that lend moral and intellectual support to social inequality (theory of social dominance, Sidanius & Pratto, 1999; system justification theory, Jost & Banaji, 1994). In particular, great attention has been focused on social dominance orientation (SDO; Pratto, Sidanius, & Levin, 2006). It expresses the desire that groups in society are organized into hierarchical systems. This desire is linked to the tendency to evaluate groups with higher status positively (Levin & Sidanius, 1999; Sidanius & Pratto, 1999). In particular, people more oriented to social dominance tend to adhere to ideologies and to favor policies enhancing social inequalities, whereas people less oriented to social dominance tend to adhere to ideologies and to favor policies reducing them. According to the authors, individuals high in SDO, when members of high status groups, perceive outgroups negatively in order to justify and maintain their hierarchical superiority. Instead, individuals members of low status groups have a positive view of high status groups. Hence, we hypothesized that SDO could impact the adherence to content of stereotypes, resulting in evaluations concerning the outgroup's stereotypic traits that differ from those hypothesized by the SCM. For instance, Northerners high in SDO could deny the outgroup warmth, considered as an unimportant dimension for individuals highly oriented in social

dominance. This would contradict the Southerners' stereotype content emerged in Study 1.

In the study of intergroup relationships, a further approach is the one proposed by social identity theorists (Tajfel, 1981; for reviews concerning recent developments, see: Brown & Capozza, 2006; Capozza & Brown, 2000), which studied the effects of ingroup identification. According to this theoretical perspective, individuals need a positive social identity: that is, the ingroup has a value when it is perceived as superior to pertinent outgroups. Hence, identification determines the research of distinctiveness that expresses itself by differentiation at the evaluative level and discrimination at the behavioral level. Considering the theoretical premises exposed till now, we can hypothesize that also identification can impact the adherence to the stereotype content, resulting in different evaluations of outgroup's stereotypic traits from those hypothesized by the SCM. For instance, being highly identified with the Southern ingroup could have an impact on the outgtoup competence's judgements, contradicting what is claimed by SCM for high status groups.

1. Study 2

1.1. Method

1.1.1 Participants.

Two student samples were recruited.

Northern Italians: 183 University of Padova students recruited from various psychology courses, volunteered to complete the questionnaire (35 male, 138 female, and 10 who did not indicate gender; mean age = 21.93).

Southern Italians: 182 University of Catania students recruited from various psychology courses, volunteered to complete the questionnaire (22 male, 151 female, and 9 missing values; mean age = 20.10).

1.1.2 Questionnaire and Procedure

A questionnaire was administered to both samples. It included measures of the following variables: 1) social dominance orientation using the scale proposed by Sidanius and Pratto (1999) and adjusted for the Italian context (Aiello, Chirumbolo, Leone, & Pratto, 2005); 2) ingroup identification (as Northerners or Southerners) by using Capozza, Brown, Aharpour, and Falvo's (2006) scale, which measures distinct components of social identity (emotional and evaluative components, membership awareness, and self-stereotyping). Each sample also evaluated ingroup and outgroup on 3) socio-structural factors of the SCM: status, competition and cooperation; 4) the SCM's stereotypical traits: competence and warmth. Items used for status, interdependence, competence and warmth are identical to those used in Study 1 (see Table 2.2, Chapter II). Items for SDO and identification are reported in Table 3.1. Participants were instructed to make their evaluations using 7-point scales. For the SCM's dimensions, 1 = *not at all* and 7 = *very much*. For SDO and identification, items were anchored from 1 (*totally disagree*) to 7 (*totally agree*).

Table 3.1. Ingroup identification and SDO scales.

Construct	Items
Ingroup identification	I evaluate positively being a […] group member
	I perceive myself as similar to the other […] group members
	I have the typical […] qualities
	I don't behave as a typical […]
	I have a good opinion of […]
	I consider myself as a […]
	I feel close to other […]
	I feel attached to the other […]
	During the day, I think often about being a […]
	I am aware of the image I convey as a […] group member
	During the day, others often remind me that I am a […]
	When I evaluate myself, I take into consideration the […] values and standards
	Being a […] group member provide me with prestige
	Being a […] group member makes me appreciated
	Mostly, I behave as a typical […]
	When I introduce myself, I often refer to the fact that I am […]
	I would feel uncomfortable if mass media criticized […]
	Being one of the […] is something I often think about
	I often think of myself as one of the […]
	I feel good when other […] succeed
SDO	Some groups of people are simply inferior to other groups
	In getting what you want, it is sometimes necessary to use force against other groups
	It's OK if some groups have more of a chance in life than others
	To get ahead in life, it is sometimes necessary to step on other groups
	If certain groups stayed in their place, we would have fewer problems
	It's probably a good thing that certain groups are at the top and other groups are at the bottom
	Inferior groups should stay in their place
	Sometimes other groups must be kept in their place
	It would be good if groups could be equal
	Group equality should be our ideal
	All groups should be given an equal chance in life
	We should do what we can to equalize conditions for different groups
	Increased social equality
	We would have fewer problems if we treated people more equally
	We should strive to make incomes as equal as possible
	No group should dominate in society

Note. For the ingroup identification scale, the points of ellipsis were replaced by the words Northerners or Southerners according to the sample, for each question.

1.2 Results

We checked reliabilities for all measures. Table 3.2 summarizes means, standard deviations, and Cronbach's alphas for all the considered constructs. Items were, then, averaged and composite measures were created to use in the following analyses.

Table 3.2. Means, standard deviations and reliabilities for measures, Northern and Southern samples.

Scale	Northerners			Southerners		
	M	*SD*	α	*M*	*SD*	A
SDO	2.87***	0.88	.86	2.81***	0.74	.78
Identification	3.31***	1.01	.92	4.15*	0.85	.85
Cooperation	3.31***	1.12	.81[a]	2.87***	1.17	.80[a]
Competition	3.70**	1.52	.71	4.71***	1.35	.59

	Ingroup			Outgroup			Ingroup			Outgroup		
	M	*SD*	α	*M*	*SD*	α	*M*	*SD*	α	*M*	*SD*	α
Competence	4.88***	0.92	.92	4.43***	0.98	.90	4.81***	0.98	.86	4.51***	0.98	.87
Warmth	4.08	0.86	.86	4.98***	0.94	.85	5.41***	0.79	.81	3.45***	1.10	.86
Status	5.02***	0.97	.85	3.97	1.15	.83	3.91	1.14	.82	5.03***	1.03	.65

Note. a = value obtained excluding the third item of the cooperation scale. Means presented are on a 7-step scale anchored by *not at all* or *totally disagree* (1) and *very much* or *totally agree* (7).
For all means reported in the table, the difference from 4 was computed.
* $p < .05$. ** $p < .01$. *** $p < .001$.

1.2.1. The perception of the socio-structural attributes

Status. On the status variable, a 2 (sample: Northern vs. Southern) x 2 (target group: ingroup vs. outgroup) mixed ANOVA was performed, with the last factor serving as a within-participants factor. Results showed a significant Sample x Target Group interaction, F (1, 359) = 167.09, $p < .001$ (see Table 3.3). The Northerners' status was rated higher by both samples, regardless of the target evaluated, i.e., ingroup or outgroup (M=5.02, SD= 0.96, Northern sample; and M= 5.04, SD= 1.02, Southern sample). The status of the Southerners was rated lower by both samples, independently from the target

evaluated (*M*=3.91, *SD*=1.14, Southern sample; *M*=3.97, *SD*=1.02, Northern sample; all *t*s significant at *p*s < .001). No other significant effect or interaction was found, *F*s < 1. This result highlights that the perception of the Northerners' and Southerners' status was shared by members of both samples.

Table 3.3. Status ratings as a function of sample and target group.

	Status			
Sample	Ingroup		Outgroup	
	M	*SD*	*M*	*SD*
Northern	5.02_a	0.96	3.97_b	1.15
Southern	3.91_b	1.14	5.04_a	1.02

Note. Means presented are on a 7-step scale anchored by *not at all* (1) and *very much* (7). Within each column and row, the different subscript indicates that the two means are significantly different, $p < .001$.

Interdependence. To investigate the perceptions of interdependence held by participants, two independent sample *t*-tests were performed, comparing the mean ratings on cooperation and on competition provided by both samples. Concerning the former, results showed that the Northern sample rated cooperation significantly higher than the Southern one (*M*=3.31, *SD*= 1.12, and *M*=2.87, *SD*= 1.17, respectively; $t(363)=3.60$, $p < .001$). For competition, results showed a significantly higher degree of competition perceived by Southern participants (*M*=4.71, *SD*= 1.35), than by Northern participants (*M*=3.70, *SD*= 1.52; $t(361)= -6.69$, $p < .001$). In other words, the Southern sample perceived the relationship with the outgroup as more competitive and less cooperative than the Northern sample.

1.2.2. The perception of the stereotypic traits

In order to investigate the perceptions of competence and warmth held by participants, a 2 (sample: Northern vs. Southern) x 2 (target group: ingroup vs. outgroup) x 2 (trait: competence vs. warmth) mixed ANOVA was performed, with the last two factors serving as within-participants factors. Results showed a significant main effect for target group, F (1, 360) = 66.170, p < .001. The ingroup was generally evaluated higher than the outgroup (M= 4.80, SD= 1.85 vs. M= 4.34, SD= 0.96, respectively). A significant main effect was also found for trait, F (1, 360) = 34.11, p < .001. The stereotypic trait competence was generally rated higher (M= 4.66, SD= 0.76) than warmth (M= 4.48, SD= 0.67). Both the two-way interactions, Sample x Target Group (F (1, 360)= 145.48, p < .001), and Trait x Target Group (F (1, 360)= 5.07, p < .03), were significant. More interestingly, a significant 3-way interaction, Sample x Target Group x Trait, was found, F (1, 360) = 491.78, p < .001.

The 3-way interaction was decomposed in two 2-way interactions Target Group x Trait, one for the Northern sample and one for the Southern sample. The ANOVA run for the Northern sample revealed a significant main effect for target group, F (1, 179) = 9.49, p < .01. The Northern sample evaluated the outgroup generally higher than the ingroup (M= 4.49, SD= 0.78 vs. M= 4.70, SD= 0.90, respectively). As previously found, a significant main effect was found for trait, F (1,179) = 10.18, p < .01. The competence ratings were higher than the warmth ratings (M= 4.65, SD= 0.80 vs. M= 4.53, SD= 0.62, respectively). More interestingly, results also showed a significant Target Group x Trait interaction, F (1, 179) = 247.82, p < .001. As reported in Table 3.4, ingroup competence was rated significantly higher (M= 4.88, SD= 0.92) than outgroup competence (M= 4.43, SD= 0.98; t(180) = 6.06, p < .001). However, the opposite was true when the evaluations concerned the warmth dimension. In fact, ingroup warmth was judged lower (M= 4.08,

SD= 0.87) than outgroup warmth (*M*= 4.98, *SD*= 0.94; *t*(180) = -10.06, *p* < .001). Finally, the Northern sample judged the ingroup as significantly more competent than warm, *t*(181) = 12.17, *p* < .001; and the outgroup as significantly more warm than competent, *t*(180) = 11.61, *p* < .001 (means above).

Table 3.4. Ratings as a function of trait and target group for the Northern sample.

	Target Group			
Trait	Ingroup		Outgroup	
	M	*SD*	*M*	*SD*
Competence	4.88_a	0.92	4.43_b	0.98
Warmth	4.08_b	0.87	4.98_a	0.94

Note. Means presented are on a 7-step scale anchored by *not at all* (1) and *very much* (7). Within each column and row, the different subscript indicates that the two means are significantly different, *p* < .001.

The ANOVA run for the Southern sample revealed, as for the Northern sample, a significant target group main effect, *F* (1, 181) = 172.31, *p* < .001. Conversely to what was found previously, in this case the ingroup was generally evaluated higher than the outgroup. A trait main effect was also found, *F* (1, 181) = 24.67, *p* < .001, which highlights higher competence than warmth ratings. Finally, results showed a significant Target Group x Trait interaction, *F* (1, 181) = 249.75, *p* < .001. As reported in Table 3.5, the ingroup's competence was rated significantly higher (*M*= 4.81, *SD*= 0.98) than the outgroup's competence (*M*= 4.51, *SD*= 0.99; *t*(181) = 3.08, *p* < .01). Also for the warmth dimension, the ingroup was judged significantly warmer (*M*= 5.41, *SD*= 0.79) than the outgroup (*M*= 3.45, *SD*= 1.10; *t*(181) = 18.94, *p* < .001). Finally, conversely to the Northern sample's evaluations, the Southern sample judged the ingroup as more warm

than competent, $t(181)= -10.42$, $p < .001$; and the outgroup (i.e., Northerners) as more competent than warm, $t(181) = 13.19$, $p < .001$ (means above).

Table 3.5. Ratings as a function of trait and target group for the Southern sample.

	Target Group			
Trait	Ingroup		Outgroup	
	M	*SD*	*M*	*SD*
Competence	4.81_a	0.98	4.51_b	0.99
Warmth	5.41_b	0.79	3.45_a	1.10

Note. Means presented are on a 7-step scale anchored by *not at all* (1) and *very much* (7). Within each column and row, the different subscript indicates that the two means are significantly different, $p < .001$.

1.2.3. Testing the influence of SDO and identification on stereotype content

To test the influence of SDO and identification on the perceptions of the outgroup's competence and warmth, structural equation modelling (SEM) was used. Using SEM allowed us to verify simultaneously both the predictive power of the socio-structural attributes on competence and warmth (as hypothesized by the SCM), and the influence of SDO and identification on these stereotypic traits, by means of the LISREL program (Jöreskog & Sörbom, 1999). The goodness-of-fit indexes considered are identical to those used in Study 1 and illustrated in Chapter II, namely, the χ^2 test, the Comparative Fit Index (CFI), and the Standardized Root Mean Square Residual (SRMS). Satisfactory model fits are obtained when: chi-square is non-significant; CFI is greater than or equal to .95; SRMS is less than or equal to .08 (Hu & Bentler, 1999).

Figures 3.1 and 3.2 present the theoretical models which were tested with LISREL. SDO and identification were added as predictors. For latent constructs where

more than two items were available, these were randomly combined to produce two indicators.[2] This procedure, which is called partial disaggregation (e.g., Bagozzi & Edwards, 1998; Bagozzi & Heatherton, 1994), by reducing the number of parameters which must be estimated, is particularly useful with smaller sample sizes to diminish the likelihood of computational problems, and to obtain smaller standard errors.

In order to test the mono-dimensionality of the SDO scale, the 16 items were randomly aggregated to create four indicators, and CFA was run for both samples. The model evaluated for the Northern sample obtained a good fit: χ^2 (2)= 1.44, p = .49; CFI= 1.00; SRMR= .010. Moreover, factor loadings were all high and consistent. For the Southern sample all the goodness-of-fit indexes were satisfactory, replicating what was found previously: χ^2 (2) = 1.28, p = .53; CFI = 1.00; SRMR = .014. For both samples, mono-dimensionality cannot be excluded.

Passing to the analysis of the construct of identification, the partial disaggregation was applied to obtain two indicators for each hypothesized component. Hence, a four-factor structure was first run for both samples. Even if the chi-squares were significant, due to the sample size, the other goodness-of-fit indexes were satisfactory. For the Northern sample: χ^2 (14)= 31.10, p < .01; CFI= .99; SRMR= .033; for the Southern sample: χ^2 (14)= 41.66, p < .0001; CFI= .96; SRMR= .062. Loadings were all high and of equal level. However, since the components were all highly correlated, though distinct, and we had no specific hypotheses for single components, we verified if identification might be modeled as a second-order factor. Therefore we tested

[2] Three items measured cooperation (see Table 2.2). Reliability analysis indicated that deleting the third item, Cronbach's Alpha increased (see Table 3.2). For this reason, we used only the first two items as indicators for SEM.

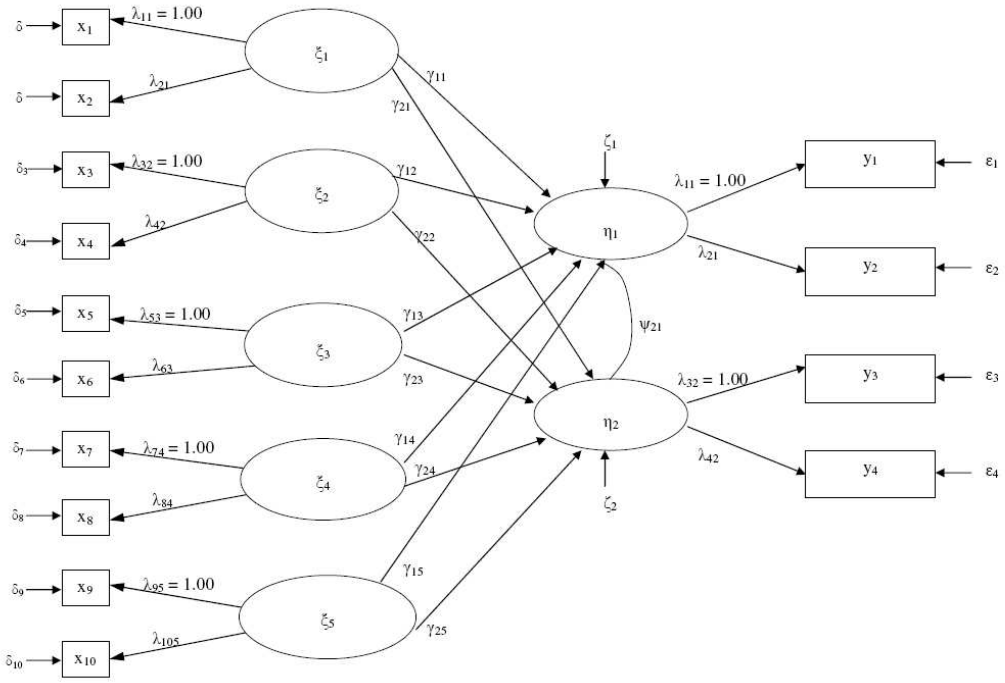


Figure 3.1. Structural equation modeling for competence and warmth, Northern sample. Theoretical model in terms of LISREL parameters.

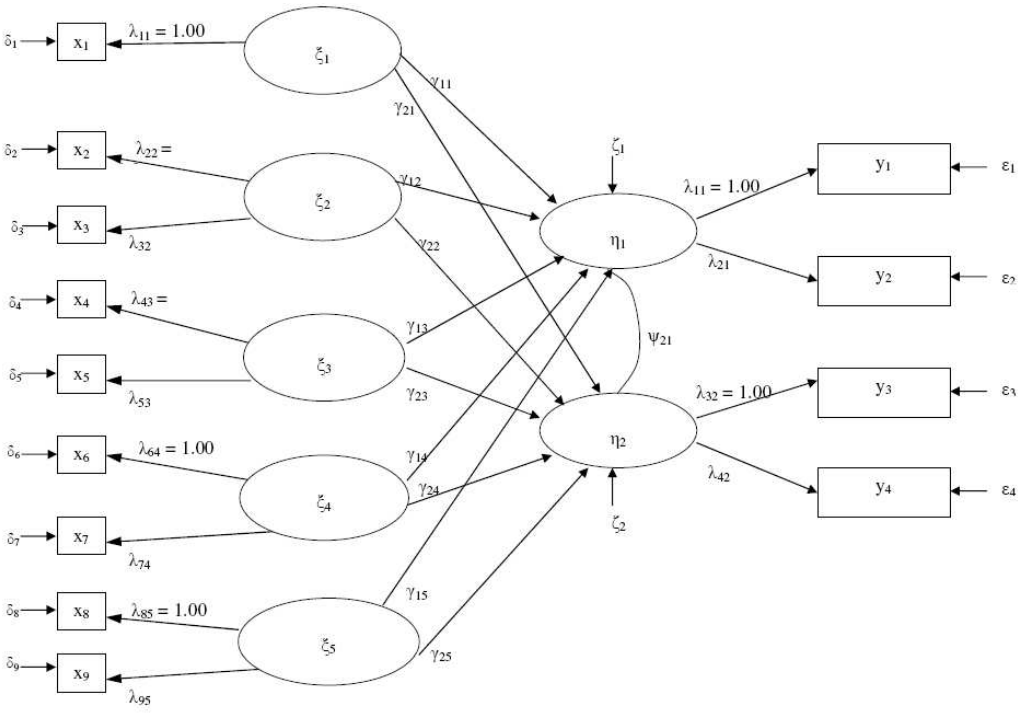


Figure 3.2. Structural equation modeling for competence and warmth, Southern sample. Theoretical model in terms of LISREL parameters.

a model where the four components were all expressions of a single factor of identification. The second-order structure fitted the data well for both samples, for instance, for the Northern sample: χ^2 (16) = 25.92, $p < .06$; CFI = .99; SRMR = .033. Given the satisfactory indexes, we aggregated the items in a single measure, split in two indicators, in testing the regression models.

Consequently, the model we evaluated, for both the Northern and the Southern sample, included five latent exogenous variables, two latent dependent variables, and 13 (Southern sample) or 14 (Northern sample) observed variables.[3] It was hypothesized that each indicator was loaded on the respective factor (see Figures 3.4 and 3.5 for the meaning of the factors and their relations with the observed variables). Given the emphasis that SCM assigns to outgroups, often neglecting the ingroup role and point of view, the model was run only for the evaluations that each sample provided for the outgroup.

The model evaluated for the Northern sample, in judging the outgroup, obtained a good fit: χ^2 (56)= 67.40, $p = .15$; CFI= .99; and SRMR= .04. Moreover, factor loadings were all high and consistent (see Figure 3.3). The Southerners' status was the best predictor of the group competence ($\gamma = .72$, $p < .001$). This means that the greater the perceived status, the higher the level of competence attributed to Southerners. This result supports a core hypothesis of the SCM. Competence was also predicted by competition ($\gamma = -.21$, $p < .05$), that is, the more Southerners were perceived as competitive, the less they were judged as competent. This result is inconsistent with SCM's tenets. Another inconsistent finding concerned the warmth dimension. Indeed, status turned out to be the only predictor of warmth ($\gamma = .63$, $p < .001$), while the socio-structural attributes, competition and cooperation, did not have any predictive

[3] Competition was measured using two items (see Table 2.2). Given the low reliability of the competition scale for the Southern sample ($\alpha = .59$, see Table 3.2), items were averaged and the mean was used as an indicator for SEM.

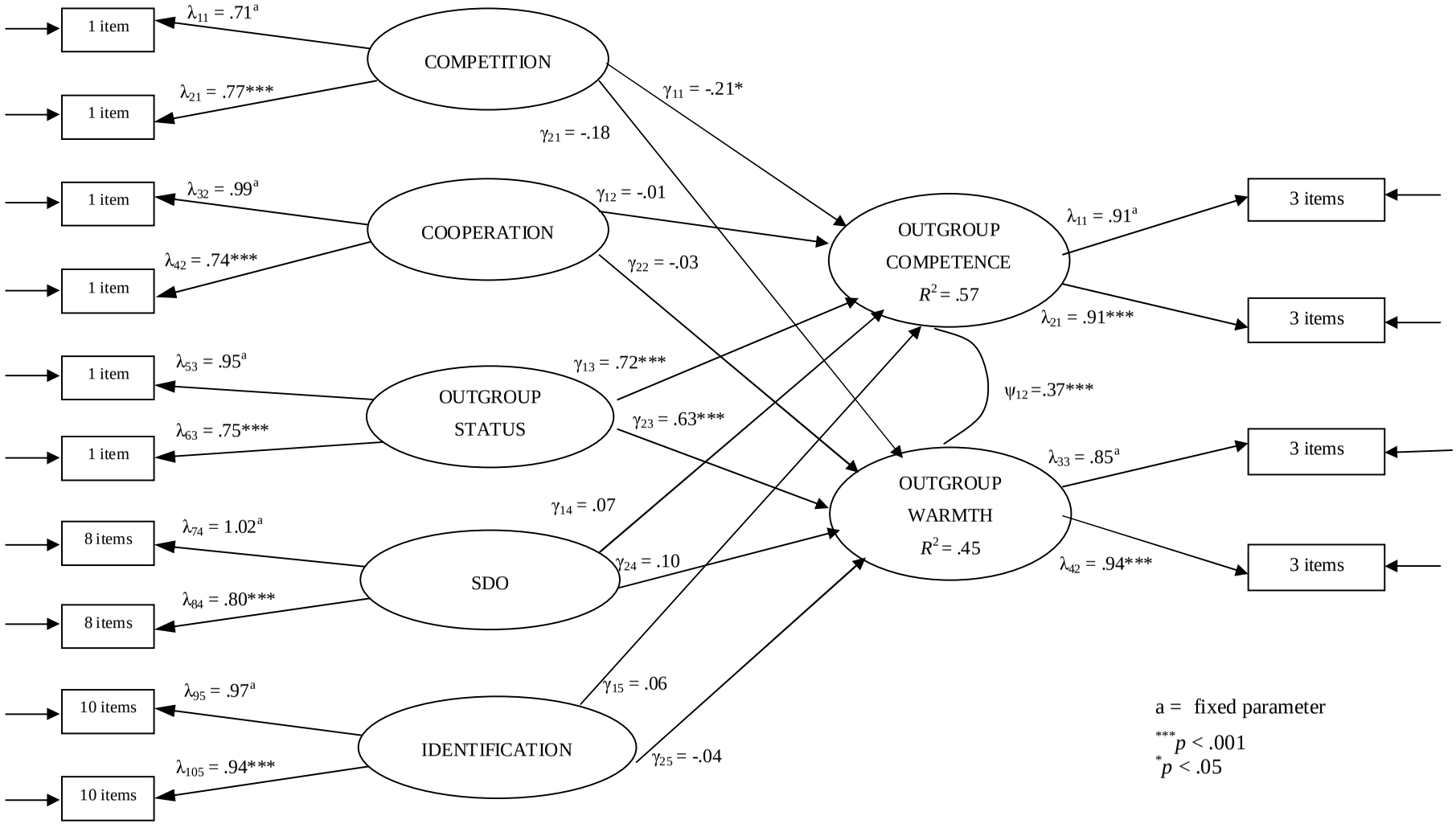


Figure 3.3. Structural equation modelling for competence and warmth, Northern sample. Completely standardized parameters.

power on such a dimension (γ= –.18, *ns*, and γ= –.03, *ns*, respectively). Hence, it seems that the higher the Southerners' status, the warmer Southerners were evaluated, but the type of interdependence did not affect such evaluation. Finally, neither SDO nor identification played any role in predicting outgroup competence and warmth.

Also the model performed for the Southern sample judging the outgroup obtained a good fit: χ^2 (45)= 51.37, *p*= .25; CFI= .99; SRMR= .042. All the goodness-of-fit indexes were satisfactory, and the factor loadings were all high and consistent (see Figure 3.4). Results concerning this model replicated what was found previously in terms of status. Indeed, the Northerners' status turned out to be the best predictor of their competence (γ= .62, *p*<.001). However, unlike what was found previously, competence was also predicted by cooperation (γ= .18, $p < .05$), that is, the more Northerners were perceived as cooperative, the more competent they were judged. Concerning the other stereotypic trait, once again, status was a predictor of warmth (γ= .37, $p < .001$). However, the best predictor of warmth was cooperation (γ= .49, $p < .001$): the more the Southerners were perceived as cooperative, the warmer the group was considered. This is consistent with what hypothesized by the SCM. Instead, competition did not directly determine the perception of warmth (γ= –.04, *ns*). Finally, results concerning SDO and identification replicated what was found for the Northern sample, namely, these variables did not influence the perceptions of the outgroup's competence and warmth.

Oldmeadow and Fiske (2007) found that SDO moderates the extent to which competence is ascribed to groups on the basis of their social status. Hence, we checked also for effects of moderation of SDO. Hierarchical regression analysis assessed whether perceived status predicted perceived competence, and whether the relationship was moderated by SDO. Status and SDO were centered by subtracting scores from the mean

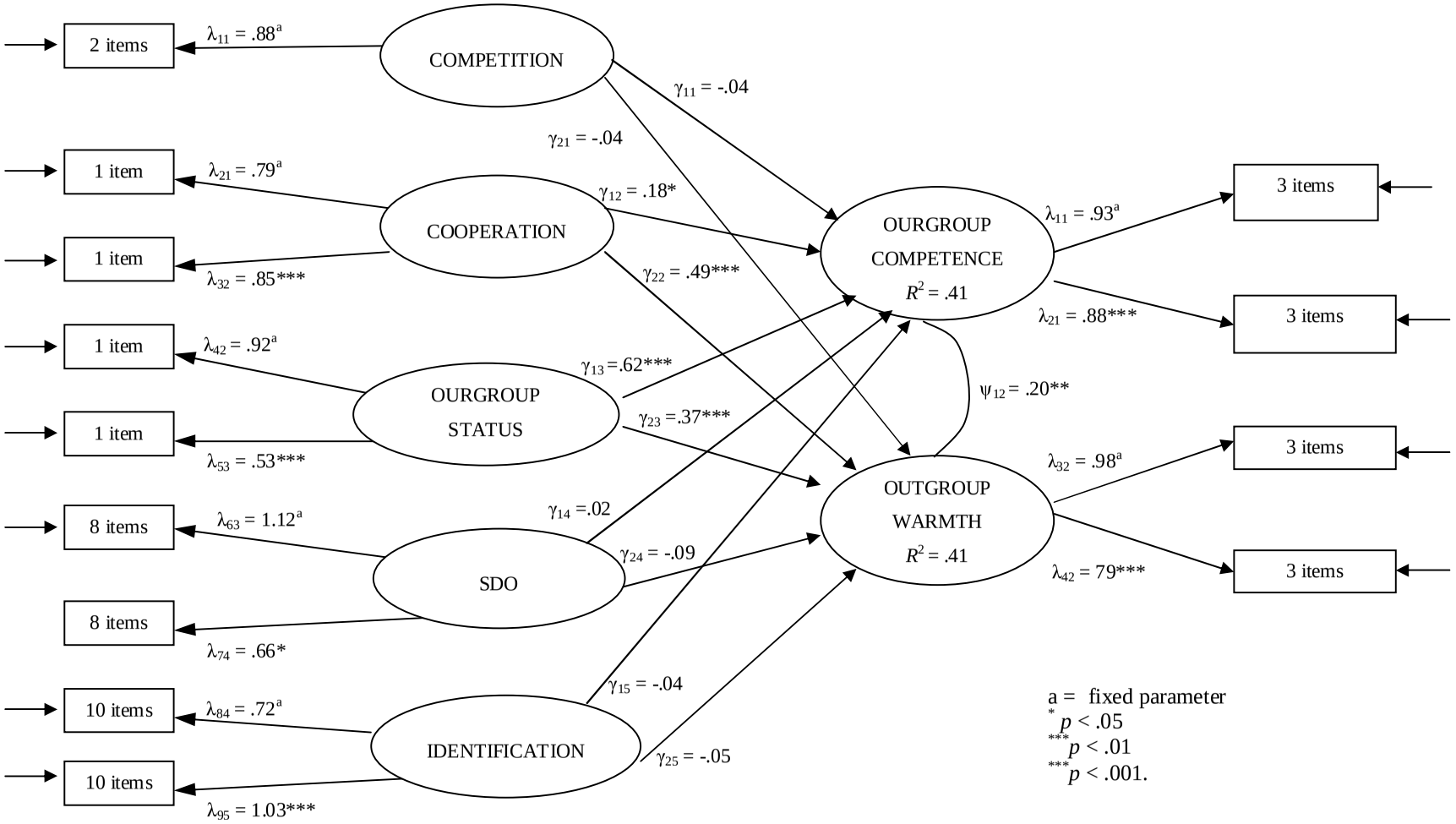


Figure 3.4. Structural equation modelling for competence and warmth, Southern sample. Completely standardized parameters.

(Jaccard, Turrisi, & Wan, 1990), and an interaction term was calculated as the product of the centered SDO and centered status. We ran hierarchical regressions for both samples evaluating the ingroup and the outgroup. We entered independent variables in blocks into the regression equation, computed the incremental *F* test of the difference in R^2 between the blocks of variables, and examined whether there was a significant change in the total R^2 after each new set of predictors was added to the model (Cohen & Cohen, 1983). The order of entry was as follows: at Step 1, status and SDO were entered; at Step 2, status SDO and their interaction were entered. SDO did not result as a moderator of the relationship between status and competence. For both samples and targets, status resulted the only predictor of competence (*p*s < .001).

2. Discussion

Study 2 aimed at applying the stereotype content model to a specific and typically Italian intergroup relation: Northerners vs. Southerners. The samples recruited were members of these two groups. Furthermore, the influence of SDO and identification on the perceptions of outgroup competence and warmth was investigated.

Results showed that both samples shared the same perception of status: Northerners perceived as the higher status group, Southerners as the lower status group. The perception of the other socio-structural attribute, i.e., interdependence, differed in the two samples. The Southern sample perceived the relationship with the outgroup as more competitive and less cooperative than the Northern sample. Results showed, furthermore, that the Northern sample evaluated ingroup and outgroup competence and warmth consistently with the evaluations of their socio-structural attributes. In fact, the

Northern sample described the ingroup (high status) as more competent than warm, and the outgroup (low status) as more warm than competent. Likewise, the evaluations provided by the Southern sample depicted the ingroup as more warm than competent, and the Northerners as more competent than warm. These results are consistent with the SCM's predictions, and, moreover, they reflect the cultural stereotypes of the two groups.

One of the hypotheses of the stereotype content model is that stereotypes describe groups as warm when perceived as non competitive. In our study, the Southern sample's perceptions of cooperation and competition with the Northerners are indeed consistent with the low degree of warmth attributed to the outgroup. However, the SCM states that stereotypes describe groups as competent when perceived as powerful and high status. In our study, despite the fact that both samples assigned a higher status to the Northerners, the Southern sample rated ingroup competence higher than outgroup competence. This result is inconsistent with both SCM predictions and the Northerners' and Southerners' cultural stereotypes.

We explain this inconsistency as a perception of illegitimate status by the Southern participants. Social identity theory (SIT; Tajfel, 1981) states that individuals are motivated to achieve a positive social identity to promote or maintain their self-esteem. The group status, relative to other groups in a society, plays an important role in shaping social identity. SIT claims that individuals belonging to a low status group, which confers a negative social identity, are likely to display ingroup favoritism. This prediction seems compatible with our results. In fact, the ratings of the ingroup competence provided by the Southern sample are evidence of ingroup bias due to the perception of the ingroup's status position as being illegitimately low. This perception of

illegitimacy may lead to a desire for social change, particularly when associated to the perception of instability.

With the exception of this latter result, Study 2 provided empirical support for SCM also when applied to a specific intergroup relationship. However, results concerning SDO and identification did not meet our expectations. The Northern and Southern stereotypes are deeply rooted in the Italian culture. What is illustrated above shows the strength of this cultural view, which is shared also by members of these groups. The greatest part of results, in fact, confirmed what is culturally well-known in terms of Northerners and Southerners. We believe that this is the reason why neither SDO nor identification had an impact on the perceptions of competence and warmth. In other words, it seems that, in this particular intergroup relationship, being high in SDO or strongly identified with the ingroup do not raise doubts about what has been handed down culturally for generations.

Chapter IV

Study 3. The role played by competence in inferring status.

One of the strongest results illustrated so far is the link between status and competence. As mentioned in Chapter I, the importance of status in inferring groups' competence has often been emphasized by many scholars (among others LeVine & Campbell, 1972; Tajfel, 1981). However, as stated by the same proposers of SCM, "one could argue the opposite, that the groups' actual or perceived traits give them their place in society" (Fiske, Cuddy, Glick, & Xu, 2002, p. 900). Indeed, the way competence works with regard to status has never been investigated. Does this trait lead to inferring the socio-structural factor? This is the question addressed in the present chapter.

To investigate such a relationship, three studies have been conducted. The role played by group membership in the inferential process from stereotype to structural attribute was also considered. In fact, in the research linked to the stereotype content model, membership has not been considered so far, mainly because Fiske and colleagues' (see Fiske et al., 2002; Cuddy et al., 2007) position was to look at societal stereotypes and not at individual beliefs. However, as shown in Chapter II, moving from the societal point of view toward a specific intergroup relationship, we are likely to observe ingroup membership at work (e.g., the evaluations of competence provided by the Southern sample in judging the ingroup). Social identity theory (SIT; Tajfel, 1981;

see also Brown & Capozza, 2006, for recent reviews) supports that individuals are motivated to achieve a positive social identity, and higher status ingroups provide individuals with this kind of self-enhancing. Hence, we assume that, in intergroup contexts, enhancing or protecting ingroup's value (e.g., Tajfel & Turner, 1979) is an important motivation that could intervene in the inferential processes from stereotypes to socio-structural attributes (see also Tausch, Kenworthy, & Hewstone, 2007).

1. Overview of the Studies and Hypotheses

The three studies aimed at testing the following hypotheses.

Hypothesis 1. Perceived competence influences the attributions of status. More precisely, we expect to find an attribution of higher status for the most competent group.

Hypothesis 2. Given the previous hypothesis, group membership should influence the evaluations of status. More precisely, we expect to find an attribution of higher status for the members vs. non-members especially when the ingroup is described as low in competence.

In all studies, the level of competence was manipulated. Membership was artificially created through minimal group manipulation. Participants evaluated two fictitious groups (the Greens and the Blues) on several constructs. Status was measured using a 4-item scale created for the present studies. Competence was measured using a scale derived from previous studies (Judd, James-Hawkins, Yzerbyt, & Kashima, 2005). We used competence ratings as a manipulation check. Furthermore, despite the fact that the three studies concerned the relationship between competence and status, we included scales related to the remaining SCM dimensions, namely, warmth (Judd et al., 2005),

competition (Fiske et al., 2002), and cooperation (Eckes, 2002). Even if warmth was not manipulated, we were interested in exploring the impact of membership on this dimension and its socio-structural attributes (i.e., interdependence).

Part of the experimental procedure used was borrowed from Judd et al. (2005).

2. Pre-Test

Forty-three warmth- and competence-related behaviors used in Judd et al. (2005) and three further items (see Appendix C) were translated into Italian and pre-tested to be used in the following studies. The aim of the pre-test was to check whether these behaviors worked in an Italian context. We aimed at identifying behaviors that were independently diagnostic of (high vs. low) warmth or competence, or were neutral. Forty undergraduate students attending the University of Padova were asked to judge each behavior either on competence or warmth (n=20 in each case). Participants answered two questions: "How motivated, intelligent, energetic, and organized do you think the person who did this behavior is?" and "How sociable, warm, friendly, and caring do you think the person who did this behavior is?" (Judd et al., 2005). Responses were given on a scale anchored by –4 (*not at all*) and 4 (*very much*). We calculated the means for each behavior and each question, and then correlated them across behaviors (Appendix C shows means and standard deviations for each behavior on the two dimensions). Replicating findings of Judd and colleagues, we obtained a large and positive correlation between competence and warmth behaviors (r =.59). However, an independent t-test drove us in understanding which behaviors were more diagnostic of competence or warmth, or judged as neutral.

3. Study 3a

3.1. Method

3.1.1. Participants and Design

Participants were 54 students (71.7% female, mean age= 24.26 years) at the University of Padova who participated in exchange for course credits. All participants were told that the study concerned how people formed impressions of groups. We manipulated target groups exclusively along the competence dimension. For some dependent variables the experimental design was 2 (Greens' competence: high vs. low) x 2 (membership: membership vs. no-membership) x 2 (target group: Greens vs. Blues), with the last factor serving as a within-participants factor. For other variables, the experimental design was 2 (Greens' competence) x 2 (membership). The numbers of participants ranged from 11 to 15 in each cell. Ingroup membership was operationalized through a minimal group manipulation (Tajfel, Billig, Bundy, & Flament, 1971). The experiment was run via computer.

3.1.2. Questionnaire and Procedure

Participants arrived at the laboratory and were randomly assigned to the membership/no-membership, and high/low competence conditions. In the membership condition, the first step was to create the ingroup/outgroup categorization. Participants read instructions concerning a new test that could divide people into two groups according to their perceptual abilities. The "fake" test was the dot-estimation task (Gerard & Hoyt, 1974), often used in the minimal group paradigm. After reading the instructions, participants saw six images of numerous dots spread around the screen and

organized in such a way that they created different shapes. They were asked to enter their estimate of the number of dots immediately after the 4-second presentation of each image.

Then, participants received a bogus feedback. On their computer monitor, they read that the test classified them as "Green" and people included in the Green group were those providing an estimate slightly exceeding the correct one; namely, the Greens overestimated the number of dots. It was also mentioned that people categorized as "Blue" were those that underestimated the number of dots. To make the manipulation as credible as possible, participants read: "The test you have just done is a part of a study that involves several American universities. Recently, American scientists have, indeed, demonstrated that the ability to estimate the number of dots appearing on a screen for just a few seconds is strongly correlated with other abilities. Currently, in all of Europe researchers are collecting data to corroborate such a test. The goal is to use it as a career assessment test."

Participants assigned to the no-membership condition did not perform the dot-estimation task, and started the experimental session from the second step of the procedure: in both membership and no-membership conditions, participants were asked to form impression about the Greens and the Blues, based on behaviors that fictitious individual group members had performed. In the membership condition, the Green and Blue groups were often identified as the "ingroup" and the "outgroup." As in Judd et al. (2005), participants read 32 behavior descriptions: 16 concerning Greens and 16 concerning Blues (see below for the breakdown of behaviors per group). Each behavior was presented individually on the screen for 7 seconds. Behaviors from the two groups

were intermixed, and presented in a random order. Then, participants were asked to read behaviors a second time, but one group at a time starting with the behaviors of Greens.

Competence was manipulated as follows: of the 16 behaviors used to describe each group, six behaviors were randomly taken from one end of the manipulated dimension and two from the other end (high vs. low competence); furthermore, two were from each end of the warmth dimension (the non-manipulated dimension), and four were neutral. Thus, the high group had six high-competence and two low-competence behaviors, while the low-competence group had six low- and two high competence behaviors. In the membership condition, participants were all members of the Green group. In the no-membership condition, participants saw the descriptions of members of both groups, but they did not have any reason to identify with one or the other group. In the high competence condition, Greens were the high-competence group, while in the low-competence condition, they were the low-competence group.

At the end of the behaviors presentation, participants read the following instructions: "The experimenter will provide you with a brief questionnaire. We invite you to complete it paying attention to each question. Thank you very much for your collaboration." On the questionnaire that was designed, participants rated both groups on items measuring competence, warmth, competition and cooperation. For the Greens' status, four items were created (see Table 4.1). For all items a 9-point scale, anchored from – 4 (*not at all*) to 4 (*very much*), was used.

On the last section of the questionnaire, a recognition task was presented aimed at checking whether participants paid attention to the behaviors presented. They read a list of nine behaviors: five were taken from the experimental material, while four were new behaviors. The task for participants was to recognize which behaviors were

presented on the screen and which were not. None failed the task. At the end, participants were debriefed, thanked and dismissed.

Table 4.1. Scales

Construct	Traits and Items
Competence	Capable, skilled, lazy, disorganized
Warmth	Sociable, caring, unfriendly, insensitive
Status	The *Greens* possess the abilities to reach prestigious positions The *Greens* are successful people The *Greens* are natural leaders The *Greens* stand on very important positions on the social scale
Competition	If the *Blues* get special breaks (such as preference in hiring decisions) this is likely to make things more difficult for the *Greens* Resources that go to members of the *Blue* group are likely to take away from the resources of the *Greens* Benefits allocated to the *Blues* are likely to take away from *Greens*' benefits
Cooperation	There can exist a fair give and take between the *Greens* and the *Blues* The *Greens* can be in a cooperative relationship with the *Blues* There can be cooperation, in various social contexts, between the *Greens* and the *Blues*
Dot-estimation task	Had you ever heard about the dots test before? (yes/no) Had you ever read in an article or in a book about the dots test before? (yes/no) Had you ever been recruited for an experiment carried out with the dots test before? (yes/no) Do you have any concerns or doubts about the dots test? (yes/no)

3.2. Results

3.2.1. Manipulation Check

Responses to the competence items were used as a manipulation check. Even if it was possible that the membership variable influenced competence judgments concerning groups, we expected an interaction between Greens' competence and target group. In other words, Greens should have been rated as more competent in the high Greens' competence condition, and Blues in the condition of low Greens' competence.

Negative traits for competence were reverse-coded so that that higher numbers indicated higher competence. Cronbach's alpha was satisfactory both for the Green target (alpha = .77) and the Blue one (alpha = .84). Items were then averaged to create a

composite measure of Greens' and Blues' competence. To these data, a 2 (Greens' competence) x 2 (membership) x 2 (target group) mixed ANOVA was applied, with target group serving as a within-participants factor. ANOVA revealed a significant Greens' Competence x Target Group interaction, $F(1, 50) = 14.27$, $p < .001$ (Table 4.2). In the condition of high Greens' competence, the Green group was judged higher in competence (M= 1.09, SD= 1.13) than the Blue group (M= 0.24, SD= 1.07), while in the condition of low competence for Greens, the Blue group was judged higher in competence (M= 1.13, SD= 0.98) than the Green one (M= –0.03, SD= 1.78). No other significant effect or interaction was found, Fs < 1.

Table 4.2. Competence ratings as a function of Greens' competence and target group, *Study 3a*

	Greens' Competence			
Target Group	High		Low	
	M	*SD*	*M*	*SD*
Greens	1.09_a	1.13	-0.03_b	1.78
Blues	0.24_b	1.07	1.13_a	0.98

Note. Means presented are on a 9-step scale anchored by *not at all* (–4) and *very much* (4). Within each column and row, the different subscript indicates that the two means are significantly different, $p < .02$.

Results showed the effectiveness of the manipulation of competence. In the condition of high competence, Greens were rated as more competent than Blues; in the condition of low competence, Greens were judged as less competent than Blues. Being a member of the Green group did not affect such evaluations.

3.2.2. Relationship between competence and status

Reliability of the scale of status was high (alpha=.90). Items were averaged to create a composite measure of Greens' status. A 2 (Greens' competence) x 2 (membership) ANOVA, performed on such a variable, revealed a significant main effect for Greens' competence, F (1, 50) = 9.54, $p < .004$. The status of Greens was rated higher (M= 0.86, SD= 1.52) in the high- than in the low-competence condition (M= – 0.54, SD= 1.68). This finding is consistent with our first hypothesis. No other significant effect or interaction was found, Fs (1, 50) $\leq$ 2.26, ps>.14.

3.2.3. Effects on the other variables

Negative traits for warmth were reverse-coded so that higher numbers indicated higher warmth. Reliability was calculated for warmth, cooperation and competition scales; alphas ranged between .57 and .86. Items were, then, averaged and a 2 (Greens' competence) x 2 (membership) x 2 (target group) mixed ANOVA was run for warmth. No significant main effect or interaction was found, Fs (1, 50) $\leq$ 2.618, ps>.11.

For both cooperation and competition, a 2 (Greens' competence) x 2 (membership) ANOVA was applied. Results concerning cooperation showed a significant main effect for membership, F (1, 50)= 5.25, $p < .03$. Cooperation was rated higher in the membership (M= 1.95, SD= 0.99) than in the no-membership condition (M= 1.27, SD=1.07). All the other main effects and interactions were nonsignificant, Fs < 1. No significant effects were found for competition, Fs (1, 50) $\leq$ 1.80, ps>.18.

3.3. Discussion

Study 3a provided evidence concerning the impact of competence on perceptions of status. However, some issues remain to be addressed. Membership had no impact on status, conversely to what we hypothesized (Hypothesis 2). Nevertheless, there was an unexpected effect of membership on cooperation. Before attempting any interpretation of such a result, we need to replicate it. However, drawing on social identity theory (Tajfel, 1981), we could look at this result as an effect of ingroup enhancement: being a Green resulted in higher rates on cooperation regardless of the level of competence.

The major problem of this study was the sample size, which may have been too small to detect variations in scores. Moreover, participants were not freshmen, but 4-year students. Many of them reported they recognized the minimal group manipulations and the dot-estimation task. This could be a reason why we did not find effects of membership on status.

4. Study 3b

4.1. Method

4.1.1. Participants and Design

Participants were 88 Princeton University undergraduates who participated in exchange for course credits (60 women, 27 men, 1 who did not indicate gender; mean age=19.43 years). Of the 88 participants, 54 (61.4%) identified themselves as White or Caucasian, 17 (19.3%), as Asian-American, 10 (11.4%) as African-American, 5 (5.7%) as Latinos, 1 (1.1%) as Arabic, leaving 1 (1.1%) unknown. As in Study 3a, experimental

design for some dependent variables was 2 (Greens' competence: high vs. low) x 2 (membership: membership vs. no-membership) x 2 (target group: Greens vs. Blues), with the last factor serving as a within-participants factor, in each cell, *n*=22. Ingroup membership was operationalized through the minimal group manipulation used in Study 3a.

4.1.2. Questionnaire and Procedure

Participants arrived at the laboratory and filled out an informed-consent form. All procedures, materials and questionnaires were identical to those used in Study 3a, with one modification. Two sets of questionnaire were prepared in the laboratory. On these two sets of questionnaires, there were two labels, which were visible to participants. In one set the label said "Green" and identified the questionnaires to administer in the membership condition. On the other set the label said "Blue" and identified the questionnaires for the no-membership condition. Participants randomly assigned to the membership condition, at the end of the computer presentation, were asked, "Were you a Green or a Blue?" by the experimenter. Then, the questionnaire was administered. This was done to make more salient the membership to the artificial group (the Green one), and the existence of an intergroup context.

4.2. Results

4.2.1. Manipulation check

An initial data set screening revealed that 39 participants did not fail the memory

task, 48 made one mistake, and only one participant failed in recognizing two behaviors. Given the low number of errors, we kept all participants for the following analyses.

Analyses were run as in Study 3a. Cronbach's alpha for competence items was equal to .80, for the target Greens, and .81, for the target Blues. Items were then averaged and composite scores were created. A 2 (Green's competence) x 2 (membership) x 2 (target group) mixed ANOVA revealed a significant Greens' Competence x Target Group interaction, F (1, 84) = 103.46, $p < .001$ (see Table 4.3).

Table 4.3. Competence ratings as a function of Greens' competence and target group, *Study 3b*

	Greens' Competence			
Target Group	High		Low	
	M	*SD*	*M*	*SD*
Greens	1.92_a	1.34	-0.32_b	1.14
Blues	-0.49_b	1.46	1.94_a	1.14

Note. Means presented are on a 9-step scale anchored by *not at all* (–4) and *very much* (4). Within each column and row, the different subscript indicates that the two means are significantly different, $p < .001$.

Similarly to the previous study, in the condition of high Greens' competence, the Green group was judged as more competent (M= 1.92, SD= 1.34) than the Blue group (M= –0.49, SD= 1.46); while in the low Greens' competence condition, the Blue group was judged higher in competence (M= 1.94, SD= 1.14) than the Green group (M= –0.32, SD= 1.14). No other significant effect or interaction was found, Fs < 1. These results showed the effectiveness of the experimental manipulation of competence.

4.2.2. Relationship between competence and status

Cronbach's alpha for the Greens' status scale was .87. Items were averaged to create a composite measure of status. A 2 (Greens' competence) x 2 (membership) ANOVA revealed a significant main effect for Greens' competence, F (1, 84) = 35.49, $p < .001$. As in Study 1, the status of Greens depended on their competence: in the high Greens' competence condition, Greens' status was rated higher than in the low Greens' competence condition (M= 1.61, SD= 1.37 vs. M= –0.20, SD= 1.53, respectively). More interestingly, results showed a significant main effect for membership, F (1, 84) = 4.30, $p < .05$. Greens' status was rated higher when participants belonged to the Green group (M = 1.02, SD= 1.64) than when they did not (M= 0.39, SD= 1.74). Even if the interaction between membership and Greens' competence was not significant, we applied a t-test comparing the Greens' status means of members vs. no-members, in the high Greens' competence condition. Results were significant, $t(42)$= 2.40, $p < .03$. Indeed, albeit in both cases the Green group was described as competent, when participants belonged to it, they evaluated its status higher (M= 2.08, SD= 0.98) than when they did not belong (M= 1.14, SD= 1.56). The same comparison for the low-competence condition was not significant ($t < 1$).

4.2.3. Effects on the other variables

Negative traits for warmth were reverse-coded and alphas were calculated for the warmth, cooperation and competition scales (alphas included between .63 and .77). For each scale, items were averaged and composite scores were used for analyses.

A 2 (Greens' competence) x 2 (membership) x 2 (target group) mixed ANOVA was run for warmth and, conversely to Study 3a, it showed an interaction between

Greens' Competence and Target Group, F (1, 84) = 5.35, $p < .03$. In the high Greens' competence condition, even if not significantly (see Table 4.4), the Green group tended to be evaluated lower on warmth compared to the Blue group (M= 0.41, SD= 1.30 vs. M= 0.69, SD= 1.31, respectively), while in the low Greens' competence condition, the Green group was rated higher on warmth than the Blue group (M= 0.91, SD= 1.25 vs. M= 0.08, SD= 1.30, respectively). In other words, the non-competent group was judged warmer than the competent one. No other significant effect or interaction was found, Fs < 1.

Table 4.4. Warmth ratings as a function of Greens' competence and target group, *Study 3b*

	Greens' Competence			
Target Group	High		Low	
	M	*SD*	*M*	*SD*
Greens	0.41_a	1.30	0.91_a	1.25
Blues	0.69_a	1.31	0.08_b	1.30

Note. Means presented are on a 9-step scale anchored by *not at all* (–4) and *very much* (4). Within each column and row, the different subscript indicates that the two means are significantly different, $p < .04$.

As in Study 3a, a 2 (Green's competence) x 2 (membership) ANOVA showed no significant effects for competition (Fs < 1). The same analysis carried out on cooperation revealed a significant main effect for membership, F(1, 84) = 8.04, $p < .01$. In the membership condition participants attributed higher scores on cooperation (M= 2.02, SD= 1.38) than in the no-membership condition (M= 1.23, SD= 1.24). No other main effect or interaction was significant, Fs < 1.

4.3. Discussion

Study 3b provided empirical evidence supporting our hypotheses. First of all, we replicated what was found in Study 3a: that is, perceived competence had an impact on perceived status (Hypothesis 1). In the present study, we found some support for the hypothesis concerning membership: being a member of the Green group played a role in inferring status. As illustrated above, status was rated significantly higher in the membership condition than in the no-membership one. However, this happened only if participants belonged to the group that was depicted as the competent one. Indeed, when comparison involved the group low in competence, this significant effect disappeared.

We think that the nature of the sample may play, once again, a role in these results. Princeton University is one of the most prestigious universities in the U.S. It is very selective, and each year it enrolls a small number of students. Thus, being accepted at Princeton is extremely hard, and students enrolled in such an institution are very high profile. We think that participants assigned to the low Greens' competence condition simply did not believe they belonged to such a group. Indeed, during the debriefing, students in the low Greens' competence condition very often reported that they did not recognize themselves in the Greens' descriptions, but they felt themselves to be more similar to the Blues (i.e., the competent group).

In Study 3b, results concerning warmth showed that the low competent group was rated as warmer than the competent one, regardless of membership. We interpreted this result as a compensatory process that, as supported by Judd et al. (2005), occurs when one is judged more positively than another on one dimension. Participants tried to "rectify this disparity by asserting that the situation must be reversed on the other

dimension of social judgment" (Judd et al., 2005, p. 910). We found this process at work also in a comparative context, when participants had a group membership. Thus, in our data, we cannot point to an ingroup bias for the warmth dimension.

Instead, this is probably the case for cooperation. We did not manipulate the warmth dimension. Nonetheless, cooperation was rated higher by participants assigned to the membership condition, as if an ingroup identity enhancement was at work. We replicated what was found in Study 3a.

To sum up, results generally supported both hypotheses. However, we still need to investigate whether carrying out this experiment with a different sample, in a different context, would allow us to observe an effect of membership on status at a low level of competence.

5. Study 3c

5.1. Method

5.1.1 Participants and Design

Study 3c was a replication of Studies 3a and 3b. Participants were undergraduates at the University of Milano – Bicocca, who participated in exchange for course credits, $N = 84$: 73.8% female, mean age = 21.48.

We used, as in the previous studies, a 2 (Greens' competence: high vs low) x 2 (membership: membership vs no-membership) x 2 (target group) experimental design, with the last factor serving as a within participants factor: in each cell, $n=21$. Ingroup membership was operationalized as in Studies 3a and 3b, and experiments were run via computer.

5.1.2.Questionnaire and Procedure

Participants arrived at the laboratory and were randomly assigned to different conditions. Procedures were similar to previous studies. The questionnaire measured the same variables as in Studies 3a and 3b (see Table 4.1). We added a measure for the status of the Blue group identical to the one used for Greens. This scale was included as an important element missing in the previous studies. Evaluations concerning the Green group were asked first and participants in the membership condition were all assigned to the Green group.

5.2. Results

5.2.1. Manipulation check

The initial data set screening showed that only one participant failed in recognizing one behavior. Thus, we kept all participants for the following analyses.

As previously done, the negative traits for competence were reverse-coded and alpha for competence items was equal to .72, for the target Greens, and .67, for the target Blues. Items were then averaged and composite scores were created. A 2 (Green's competence) x 2 (membership) x 2 (target group) mixed ANOVA revealed a significant interaction between Greens' Competence x Target Group, F (1, 80)= 111.04, $p < .001$. This result replicated what was found previously: as reported in Table 4.5, the Green group was judged as more competent (M= 1.79, SD= 1.09) in the condition of high Greens' competence than the Blue group (M= –0.48, SD= 1.08); while in the low Greens' competence condition, the Blue group was judged higher in competence (M= 1.59, SD= 1.00) than the Green group (M= –0.13, SD= 1.20). No other main effect or

interaction was significant, *F*s (1, 80) ≤ 2.13, *p*s >.15. Once again, these results showed the effectiveness of the experimental manipulation of competence.

Table 4.5. Competence ratings as a function of Greens' competence and target group, *Study 3c*

	Greens' Competence			
Target Group	High		Low	
	M	*SD*	*M*	*SD*
Greens	1.79_a	1.09	-0.13_b	1.20
Blues	-0.48_b	1.08	1.59_a	1.00

Note. Means presented are on a 9-step scale anchored by *not at all* (–4) and *very much* (4). Within each column and row, the different subscript indicates that the two means are significantly different, $p < .001$.

5.2.2. Relationship between competence and status

Alpha was .85, for the Greens' status scale, and .90 for the Blues' status scale. Items were averaged and composite measures were created. A 2 (Greens' competence) x 2 (membership) x 2 (target group) mixed ANOVA was applied on status, with the last factor serving as a within participants factor. Results showed a significant main effect for target group, F (1, 80) = 4.02, $p < .05$. The Greens' status was generally evaluated higher than the status of the Blue group (*M*= 0.60, *SD*=1.44 vs. *M*= 0.26, *SD*= 1.54, respectively). Moreover, a significant interaction between Greens' Competence x Target Group was found, F (1, 80)= 107.40, $p < .001$. As shown in Table 4.6, the status of the group described as more competent was rated significantly higher (*M*= 1.33, *SD*= 1.13 for Greens, and *M*= 1.33, *SD*= 0.94 for Blues) than the status of the group low in competence (*M*= –0.12, *SD*= 1.36 for Greens, and *M*= –0.82, *SD*= 1.25 for Blues).

However, the Greens' status was judged significantly higher than the Blues' status when both described as low in competence, t (42) = 2.09, $p < .05$. Finally, a significant 3-way interaction, Greens' Competence x Membership x Target Group, was found, F (1, 80) = 7.42, $p = .008$. In other words, the 2-way interaction was qualified by membership.

Table 4.6. Status ratings as a function of Greens' competence and target group, *Study 3c*

	Greens' Competence			
Target Group	High		Low	
	M	*SD*	*M*	*SD*
Greens	1.33_a	1.13	-0.12_b	1.36
Blues	-0.82_b	1.25	1.33_a	0.94

Note. Means presented are on a 9-step scale anchored by *not at all* (–4) and *very much* (4). Within each column and row, the different subscript indicates that the two means are significantly different, $p < .001$.

The 3-way interaction illustrated above was decomposed in two 2-way interactions Greens' competence x Membership, one for the target Greens and one for the target Blues. The ANOVA run on Greens' status revealed a significant main effect for competence, F (1, 80) = 32.16, $p < .001$. Once again, in the condition of high Greens' competence, Greens' status was rated higher (M= 1.33, SD= 1.13) than in the condition of low Greens' competence (M= –0.12, SD= 1.36). Furthermore, as in Study 3b, a significant main effect was found for membership, F (1,80) = 7.97, $p < .01$. When participants belonged to the Green group, the Greens' status rates were higher than when they did not belong to such a group (M= 0.96, SD= 1.24 vs. M= 0.24, SD= 1.56, respectively). More interestingly, results showed also a significant Greens' Competence x Membership interaction, F (1, 80) = 5.78, $p < .02$. As reported in Table 4.7, when

Greens were the high competent group, the Greens' status evaluations in the membership condition did not differ from those in the non-membership condition, (M= 1.38, SD= 1.21 and M= 1.27, SD= 1.08; $t < 1$). However, when participants were in the low Greens' competence condition, they rated the Greens' status much higher when they belonged to it (M= 0.55, SD= 1.15) than when they did not (M= –0.79, SD= 1.24). Indeed, conversely to Study 3b, the comparison illustrated that the difference between members and non-members in the low Greens' competence condition was significant ($t(40) = 3.62$, $p = .001$). This is consistent with Hypothesis 2.

For the status of the Blue group, the ANOVA showed a significant main effect for Greens' competence, $F(1, 80)= 80.25$, $p < .001$. The status of Blues was rated according to their level of competence, that is, higher in the low Greens' competence condition (M= 1.33, SD= 0.94) than in the high Greens' competence one (M= –0.82, SD=1.25). No other significant effect was found, Fs $(1, 80) \leq 1.92$, ps $>.17$.

Table 4.7. Greens' status ratings as a function of Greens' competence and membership, Study 3c

	Greens' Competence			
Membership	High		Low	
	M	*SD*	*M*	*SD*
Membership	1.38_a	1.21	0.55_b	1.15
No-Membership	1.27_a	1.08	-0.79_c	1.24

Note. Means presented are on a 9-step scale anchored by *not at all* (–4) and *very much* (4). Within each column and row, the different subscript indicates that the two means are significantly different, $p < .03$.

5.2.3. Effects on the other variables

Negative traits for warmth were reverse-coded and alphas were calculated for the warmth, cooperation and competition scales (alphas between .63 and .74). For each scale, items were averaged and composite measures were used for analyses.

The 2 (Green's competence) x 2 (membership) x 2 (target group) mixed ANOVA ran on the non-manipulated dimension, warmth, showed a marginally significant Target Group x Competence interaction, F (1, 80) = 3.53, p = .064. Even if there was no significant difference on the warmth scores attributed to the Green group in both conditions of competence (M= 0.55, SD= 1.53 high Greens' competence; and M= 0.65, SD= 1.14 low Greens' competence; see Table 4.8), the Blue group was rated warmer in the high- vs. low Greens' competence conditions (M= 0.92, SD= 1.15 vs. M= 0.19, SD= 1.21, respectively; t (42) = 2.84, p < .01). No other significant effect was found, Fs (1, 80) ≤ 1.15, ps >.29.

Table 4.8. Warmth ratings as a function of Greens' competence and target group, *Study 3c*

	Greens' Competence			
Target Group	High		Low	
	M	*SD*	*M*	*SD*
Greens	0.55_a	1.53	0.65_{ab}	1.14
Blues	0.92_a	1.15	0.19_b	1.21

Note. Means presented are on a 9-step scale anchored by *not at all* (–4) and *very much* (4). Within each column and row, the different subscript indicates that the two means are significantly different, p < .01.

A 2 (Green's competence) x 2 (membership) ANOVA was applied on competition. Results revealed a significant Greens' competence main effect, $F(1,80)= 5.61$, $p = .02$. In the high Greens' competence condition, competition was rated lower ($M= –1.29$, $SD= 1.61$) than in the low Greens' competence condition ($M= –0.49$, $SD= 1.46$). It seems that the more a group was judged as competent, the lower competition was rated. No other significant effect was found, Fs < 1.

The same analysis run on cooperation showed a significant main effect for membership, $F (1, 80) = 7.76$, $p = .007$. Participants in the membership condition scored higher on the cooperation scale than participants in the no-membership condition ($M= 1.76$, $SD= 1.38$ vs. $M= 1.01$, $SD= 1.07$, respectively). No other main effect or interaction was significant, Fs < 1.

5.3. Discussion

Study 3c provided additional empirical evidence to support our hypotheses. In the present study, results showed clearly, as in Study 3a and 3b, that perceived competence influences the perception of status. This is even more evident looking at the results concerning the status of the Blue group. Indeed, regardless of membership, the Blues' status was evaluated higher when the group was described as high in competence (Hypothesis 1).

Furthermore, we found strong evidence concerning Hypothesis 2: the ingroup status was rated higher by members vs. non-members, particularly when the ingroup was described as low in competence. This result contradicts what emerged from Study 3b, where the difference between members and non-members was found only in the high

Greens' competence condition. Both results can be read as an ingroup bias. However, this incongruity needs an explanation. We think we are dealing with as a cross-cultural difference. In the studies carried out with SCM among the North-American context, the group 'students' was always comprised in the admiration cell, that is, high competence/high warmth (Fiske et al., 2002). This group was considered as an ingroup by the authors. Thus, it is likely that, also in our study, students self-stereotyped themselves as high in competence and warmth, and for this reason, as discussed previously in this chapter, did not believe in the competence manipulation when they were assigned to the low Greens' competence condition. This would explain the emerging of an ingroup bias only in the high Greens' competence condition. Conversely, in the Italian study conducted with SCM, the ingroup 'students' appeared in the paternalistic cell, that is high warmth but low competence (see Chapter II). Therefore, it is plausible to assume that a different self-stereotype was at work within the Italian sample in Study 3c: participants, already perceiving their lack of competence, needed to restore their self-image when assigned to the low Greens' competence condition. Indeed, none of them reported that they perceived more similarities with the competent group in the debriefing section, as had happened with the US sample.

Study 3c replicated results concerning the non-manipulated dimension: warmth. The low competent group was rated as warmer than the competent one regardless of membership. Even if the interaction was only marginally significant, we interpreted this result in terms of a compensatory process, as discussed above for Study 3b.

Constantly, we found an effect of membership on the dependent variable cooperation. In all studies (3a, 3b, and 3c) participants assigned a higher level of cooperation in the membership vs. no-membership conditions. As argued previously, we

believe that this is an ingroup identity enhancement. However, if competition and cooperation are two faces of the same coin, why did membership affect only the latter? Is cooperation a more desirable dimension than competition? And if so, is this true in all cultures (e.g., collectivism vs. individualism)? Further research could help in addressing these issues.

Finally, results concerning competition showed, for the first time, a very unique effect: the more a group was judged as competent, the less competition was rated. It is a very difficult result to explain. Nonetheless, it is possible to attempt some speculations. Probably, the group perceived as the most competent one was also considered as well-equipped and, therefore, with no need to compete. As said, this is just a speculative explanation. Before attempting any conclusion, further research is needed.

6. General Discussion

The present set of studies wants to provide a new understanding about the way competence works with regard to status. We started with the observation that there seems to be agreement about the two fundamental dimensions of social judgment, competence and warmth. According to SCM, they are considered as the main elements around which the content of stereotypes is organized. SCM studies have, furthermore, demonstrated how status and interdependence can predict competence and warmth. We argued that it could work as well in the opposite direction, particularly that the groups' perceived competence gives them their place in the society's hierarchy. Moreover, linking the SIT tradition to SCM, we hypothesized that, in specific intergroup situations, membership is an important element intervening in such a process of inference.

The data presented here generally supported our hypotheses. Conducted on a variety of samples, variance analyses showed doubtless evidence about the impact of competence on perceptions of status. Furthermore, these studies support the idea that membership does play a role in those inferences. Results indirectly corroborated also SCM's assumptions about socio-structural factors and their related social-judgment dimensions. Indeed, results showed that status is the socio-structural factor linked to competence.

However, these data go beyond what was expected. New effects emerged: the outcomes we found on warmth when competence was manipulated were all interpreted as compensatory processes that intervene to rectify intergroup disparity. This is consistent with Judd et al.'s (2005) results.

The impact of membership on cooperation when competence is manipulated was also unpredicted. The effect was interpreted as an identity enhancement. The explanation places more emphasis on the importance of membership in any intergroup situation. Further research is needed to address this issue, especially if we consider that the opposite effect was not found for competition (i.e., membership leads to lower rates of competition).

The cross-cultural nature of our samples enlighten the reliability of the way competence works with regard to status. The process of inference between the socio-structural factor and the social judgment dimension is bidirectional and, so far, it has proved to be cross-cultural. Instead, what seems to work accordingly to each specific culture is membership. This is not a new finding in social psychology, bearing in mind the massive production of studies concerning ingroup biases. However, this is the first contribution that links SCM to membership finding both a bidirectional relationship

between status and competence, and individuating how, when, and in which way ingroup membership intervenes in this a process according to the culture. Thus, our work not only underlines the fundamental nature of competence and its link to status, reinforcing the SCM's power of prediction, but also makes clear that, moving from an overarching societal view toward a more specific intergroup situation, we cannot underestimate the role of ingroup membership as an important element that underlies the complexity of human judgment.

Conclusions

Recently, a renewed interest has emerged in the literature on the cognitive processes responsible for the formation and maintenance of stereotypes. More specifically, researchers have looked at the stereotype contents and functions. The stereotype content model (Fiske, Cuddy, Glick, & Xu, 2002), in particular, has received considerable attention. This model emphasizes the ambivalent nature of the majority of societal stereotypes, individuating the fundamental dimensions of stereotype content, and the socio-structural factors responsible for such a content.

As stated earlier, the SCM has been substantiated by several studies. The work presented here intended to further corroborate it, providing, moreover, some new original contributions.

Since no research has been carried out using SCM within the Italian society, the first study aimed at filling up this gap. Study 1 tested the three main hypotheses underlying the SCM. Results replicated what was found by Fiske and collaborators (2002), providing us with interesting information concerning the societal view held by Italians, and reinforcing the assumption of SCM as a useful tool for detecting cultural categorizations. New, unexpected findings also emerged. Results showed that all socio-structural attributes had an impact on both competence and warmth. Additionally, since we kept in our analyses both types of interdependence, we found that cooperation was the best predictor of warmth. The dimension usually considered by the SCM's proposers, competition, had indeed a weaker impact on warmth. In our opinion, this

result highlights the importance of including cooperation in the model. Although we carefully followed what was done by Fiske et al. (2002), we also applied additional statistical techniques, such as structural equation modelling and regression analyses. The former allowed us to identify the regularity of some relationships between all the SCM's dimensions; the latter, detected important qualitative differences between and within ambivalent clusters, which added information to the cultural picture emerging from the study.

So far, no study has applied the stereotype content model to a specific intergroup relationship, involving, as participants, members of these groups. This was indeed the aim of our second study, which tested SCM's predictions within a typically Italian intergroup relationship: Northerners vs. Southerners. Furthermore, the study investigated the possibility that two variables of individual differences, such as social dominance orientation (SDO) and ingroup identification, had an impact on the warmth and competence perceptions. Results widely corroborated the model, showing how both samples shared the stereotype contents of Northerners and Southerners. However, analyses detected an interesting cue of social change (in social identity terms): the Southern sample rated the ingroup competence higher than the outgroup competence. Given the fact that this result is inconsistent with both SCM's predictions and the Northerners' and Southerners' cultural stereotypes, we explained it as evidence of ingroup bias due to the perception of the ingroup's status position as illegitimately low. Hence, it seems that, applying the model to a specific intergroup relationship, when members are involved, allows to highlight those ingroup biases so widely reported in the literature. Finally, the fact that SDO and ingroup identification had no impact on the warmth and competence perceptions is in line with the idea of SCM as a tool for

detecting cultural stereotypes. Indeed, as stated earlier, it is likely that being high in SDO or strongly identified with the ingroup do not raise doubts about what has been handed down culturally for generations.

The strength that links status and competence, which consistently emerged in the first two studies, lead us to formulate the hypotheses tested in Study 3. Even if Fiske and collaborators (2002) argued that the groups' traits could give them their place in society, no research exists investigating such an inverse relationship. The way competence works with regard to status was, indeed, addressed in the third study. We think that proving that the process of inference is bidirectional reinforces the main assumptions of the SCM, leading also to practical implications. As reported in Chapter I, the BIAS Map (Cuddy, Fiske, & Glick, 2007) hypothesizes that each combination of warmth/lack of warmth, and competence/lack of competence is associated with specific intergroup behavioral tendencies, wherein warmth is regarded as the stereotypic trait responsible for active behaviors (facilitation, harm), whereas competence is regarded as the trait responsible of passive behaviors (facilitation, harm). We could look at "facilitation" as a type of cooperativeness, while "harm" reminds more of competition. The BIAS map, like SCM, based its prediction on the socio-structural factors. Showing the existence of a bidirectional relationship reinforces those behavioral predictions.

Additionally, we introduced group membership in the inferential process from stereotype to structural attribute. As Study 2 demonstrated, moving from the societal point of view toward a specific intergroup relationship, lead us to observe ingroup biases. It has been demonstrated that social structural variables (i.e., status and interdependence) determine the quality of relations between groups. SCM's proposers suggest that prejudice is likely to be affected by changes in the social context (e.g.,

events altering power relationships). The authors also suggest that a way to reduce intergroup conflicts is to change the perception of structural factors. However, if stereotype leads to inferring the status, and membership plays a role in this process – then solutions for reducing intergroup conflicts need to be reconsidered. Indeed, if being a member of a group can alter perceptions of groups' status, then changing intergroup structural relationships could not be sufficient to reduce prejudice and conflicts.

Hence, we hypothesized an inverse relationship between status and competence, and an influence of group membership on the evaluations of status—in other words, an ingroup bias. To address these hypotheses, we realized three studies, where competence was manipulated and membership was created using a minimal group paradigm. In all studies, we constantly found that perceived competence actually influenced the perception of status, supporting our first hypothesis. Ingroup biases emerged in two studies out of three, though intervening at different levels of competence manipulation. Furthermore, results constantly brought about, in all three studies, an unpredicted effect of membership on cooperation. Finally, a compensatory process on the warmth dimension, that intervened to rectify intergroup disparity, was found in three studies out of two.

In conclusion, the present work widely supported the stereotype content model, emphasizing its power in predicting the stereotype content, and in highlighting what is culturally shared, and what it is cross-culturally different. However, the results obtained seem to suggest a further development of the model that considers also membership (and perhaps social identity), cooperation and the contingencies that can lead to social change.

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APPENDIX A

Scales' Reliabilities for each group evaluated, *Study 1*

		Students	Non-Students
Groups	Scale	ALPHA	ALPHA
Northerners	Competence	.91	.89
	Warmth	.85	.88
	Status	.84	.63
	Competition	.90	.95
	Cooperation	.61	.68
Women			
	Competence	.88	.92
	Warmth	.85	.90
	Status	.80	.78
	Competition	.96	.84
	Cooperation	.77	.62
Well-educated people			
	Competence	.88	.94
	Warmth	.84	.89
	Status	.82	.71
	Competition	.94	.88
	Cooperation	.75	.12
Middle-Class people			
	Competence	.89	.91
	Warmth	.90	.87
	Status	.83	.94
	Competition	.93	.98
	Cooperation	.79	.75
Outcasts			
	Competence	.90	.88
	Warmth	.85	.92
	Status	.76	.84
	Competition	.94	.95
	Cooperation	.80	.71
Entrepreneurs			
	Competence	.90	.87
	Warmth	.86	.85
	Status	.80	.83
	Competition	.93	.87
	Cooperation	.69	.64

Appendix A (*continued*)

		Students	Non-Students
Groups	Scale	ALPHA	ALPHA
Catholic people			
	Competence	.89	.92
	Warmth	.92	.95
	Status	.76	.81
	Competition	.96	.97
	Cooperation	.70	.87
Politicians			
	Competence	.89	.90
	Warmth	.82	.87
	Status	.55	.28
	Competition	.93	.83
	Cooperation	.52	.70
Office workers			
	Competence	.90	.94
	Warmth	.86	.94
	Status	.82	.74
	Competition	.90	.87
	Cooperation	.66	.88
Unemployed			
	Competence	.90	.91
	Warmth	.82	.93
	Status	.67	.58
	Competition	.90	.89
	Cooperation	.59	.80
Italians			
	Competence	.92	.91
	Warmth	.86	.81
	Status	.63	.59
	Competition	.95	.93
	Cooperation	.64	.83
Crooks			
	Competence	.88	.73
	Warmth	.80	.65
	Status	.45	.67
	Competition	.96	.97
	Cooperation	.57	.61

Appendix A (*continued*)

		Students	Non-Students
Groups	Scale	ALPHA	ALPHA
Old people			
	Competence	.81	.90
	Warmth	.82	.88
	Status	.71	.37
	Competition	.88	.90
	Cooperation	.69	.71
Handymen			
	Competence	.86	.93
	Warmth	.83	.92
	Status	.77	.45
	Competition	.89	.90
	Cooperation	.74	.63
Immigrants			
	Competence	.79	.87
	Warmth	.81	.88
	Status	.75	.75
	Competition	.92	.93
	Cooperation	.72	.92
Men			
	Competence	.90	.90
	Warmth	.88	.92
	Status	.78	.89
	Competition	.89	.88
	Cooperation	.48	.86
Leftists			
	Competence	.84	.93
	Warmth	.91	.94
	Status	.84	.31
	Competition	.92	.91
	Cooperation	.57	.82
Employed people			
	Competence	.85	.83
	Warmth	.87	.88
	Status	.79	.47
	Competition	.93	.87
	Cooperation	.75	.85

Appendix A (*continued*)

		Students	Non-Students
Groups	Scale	ALPHA	ALPHA
Mafiosi			
	Competence	.84	.93
	Warmth	.83	.85
	Status	.22	.003
	Competition	.84	.97
	Cooperation	.29	.40
Pensioners			
	Competence	.86	.76
	Warmth	.92	.96
	Status	.57	.53
	Competition	.92	.93
	Cooperation	.71	.79
Rightists			
	Competence	.89	.83
	Warmth	.87	.87
	Status	.89	.56
	Competition	.95	.94
	Cooperation	.67	.69
Southerners			
	Competence	.87	.90
	Warmth	.82	.86
	Status	.75	.67
	Competition	.94	.92
	Cooperation	.82	.87
Students			
	Competence	.87	.85
	Warmth	.84	.89
	Status	.79	.49
	Competition	.86	.93
	Cooperation	.70	.72
Young people			
	Competence	.87	.89
	Warmth	.84	.84
	Status	.75	.63
	Competition	.90	.81
	Cooperation	.76	.71

Appendix A (*continued*)

		Students	Non-Students
Groups	Scale	ALPHA	ALPHA
Rich people			
	Competence	.86	.84
	Warmth	.87	.91
	Status	.85	.93
	Competition	.90	.95
	Cooperation	.51	.68
Disabled people			
	Competence	.86	.89
	Warmth	.86	.88
	Status	.79	.25
	Competition	.94	.55
	Cooperation	.63	.80
Poor People			
	Competence	.86	.88
	Warmth	.92	.91
	Status	.71	.45
	Competition	.88	.70
	Cooperation	.61	.72

APPENDIX B.

Correlations between the SCM's dimensions (cooperation included), Student sample, *Study* 1.

Groups	competence – warmth	competence – competition	competence – cooperation	competence – status	warmth – competition	warmth – cooperation	warmth – status	competition – cooperation	competition – status	cooperation – status
Northerners	.15	-.23*	.42***	.63***	.07	-.06	-.07	-.31**	-.18	.50***
Women	.41***	-.1	.53***	.38***	-.23*	.40***	.02	-.34**	-.08	.2
Well-educated	.30**	-.14	.02	.55***	-.33**	.34**	-.11	.03	.15	.08
Middle-class	.54***	-.15	.45***	.49***	-.11	.47***	.26*	-.36***	.22*	.17
Outcasts	.73***	.15	.36***	.69***	.01	.34***	.39***	.12	.06	.47***
Entrepreneurs	.29**	.01	.40***	.35**	.01	.12	.02	-.18	.22*	-.09
Catholic people	.77***	-.12	.45***	.46***	-.16	.47***	.41***	-.32**	.06	.36***
Politicians	.54***	-.38***	.61***	-.06	-.35**	.51***	-.37**	-.29*	.34**	.06
Office workers	.44***	.13	.36**	.47***	.10	.23*	.08	.01	.17	.32**
Unemployed	.55***	.04	.24	.23	-.06	.06	.01	.13	.09	.24
Italians	.41***	.00	.15	.73***	-.33**	.28*	.16	-.47***	.01	.35*
Crooks	.46***	.19*	--	--	-.04	--	--	--	--	--
Old people	.31**	.02	.27*	.35**	.05	.29**	.12	.11	.09	.40**
Handymen	.41***	-.02	.44***	.69***	-.03	.30**	.50***	.09	.07	.40**
Immigrants	.69***	-.08	.22	.39**	-.25*	.30*	.54***	-.35**	-.08	.19
Men	.61***	.02	--	.55***	-.06	--	.17	--	.18	--
Leftists	.43***	-.34***	--	--	-.25**	--	--	--	--	--
Employed	.59***	.00	.43***	.51***	-.15	.20	.46***	-.04	.09	.23
Mafiosi	.30*	.14	--	--	.05	--	--	--	--	--
Pensioners	.53***	-.04	.47***	--	-.35***	.46***	--	.03	--	--
Rightists	.55***	-.07	.49***	.16	-.39***	.30**	-.05	-.15	.36***	.19
Southerners	.57***	-.30**	.47***	.13	-.37***	.39***	-.16	-.32**	.05	.43***
Students	.48***	.09	.19	.54***	-.21	.19	.17	-.10	.31**	.28*
Young people	.68***	-.01	.39***	.42***	-.09	.50***	.27**	-.13	.08	.19
Rich people	.62***	.01	--	.01	0	--	-.15	--	.07	--
Disabled people	.09	.08	.28*	.58***	-.15	.30*	-.04	-.09	.18	.30*
Poor people	.16	.28**	.13	.40***	-.09	.32	.27*	.15	-.02	.12

Note. In cells PHI coefficients, obtained running structural equation modeling (CFA) for each of the 27 groups separately, are reported.
-- PHI coefficient was not calculated because the cooperation and/or status scales were excluded from the analyses given their low Cronbach's Alpha.
$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

APPENDIX C

Pretest Mean Ratings of Behavioral Stimuli. Scale used – 4 / + 4

Behavior	Competence		Warmth	
	M	*SD*	*M*	*SD*
HIGH COMPETENCE				
X worked hard on the extra-credit assignment in linear algebra.	2.55	1.15	0.05	0.69
X is very careful when it comes to savings so that buying that first house will be possible.	2.40	1.19	0.00	1.45
X organized a student group to give feedback to the university Administration.	2.45	1.19	1.20	1.44
X practiced the violin piece 20 times a day. After a month, X felt he/she had it right.	2.65	1.23	-0.30	1.26
X published a short story in a literary magazine while still in College.	2.45	1.15	0.60	0.75
X travels extensively in Europe and speaks several languages.	2.60	1.14	1.05	1.28
X won the yearly award for the employee who contributes most to the company's profits.	2.35	1.39	0.15	1.42
X wrote a little computer program that solved a tough calculus integration problem.	3.05	0.89	0.20	1.24
LOW COMPETENCE				
X's electricity was turned off because the bill hadn't been Paid.	-2.35	1.23	-0.25	0.97
When called upon by the professor, X was confused and unable to answer the question in a coherent way.	-0.70	0.98	0.37	1.07
X considered dropping out of school because of failing Introductory psychology.	-3.05	1.28	0.50	1.05
X's bicycle was stolen several times because he/she forgot to set the lock.	-1.60	1.57	0.35	1.35
X did poorly on the exam because of mixing up the chapters that needed to be studied.	-2.15	1.18	0.20	1.06
X had trouble finding work because he/she was always late for job interviews.	-2.70	1.03	-0.05	1.19
Coworkers have learned not to ask X to organize projects since he/she rarely gets things done on time.	-2.15	1.53	-0.53	1.65
X took almost an hour to find his/her car after parking it in a huge shopping mall.	-1.45	1.70	0.05	0.94

Appendix C (*continued)*

Behavior	Competence		Warmth	
	M	*SD*	*M*	*SD*
HIGH WARMTH				
X volunteered to take care of the neighbor's pet when she was out of town.	1.40	1.10	1.95	1.32
X loves to be with other people.	1.80	1.15	2.75	1.59
X always greets friends with a big hug.	1.15	1.27	2.55	0.94
X drove friends to the airport at 5:00 in the morning, even though he/she really could have used the sleep.	2.20	0.95	2.70	1.13
X helped a blind woman cross the street.	1.95	1.19	2.30	0.80
X always smiles at strangers on the street just to make their day better.	1.70	1.22	2.00	1.69
X loves to hold hands while walking.	0.85	1.23	2.20	1.24
X spent hours with a friend after the friend's dog died.	0.80	1.64	2.55	1.73
X enjoys having long conversations with friends.	1.50	1.32	1.90	1.80
X gave up his/her seat on the crowded bus when an elderly woman got on.	1.95	1.36	2.20	1.44
LOW WARMTH				
X rarely talked to the other people in the house that a bunch of them shared.	-1.70	1.45	-2.00	1.30
X yelled at the driver who took the empty parking space.	-0.95	1.50	-0.90	1.37
X decided that everyone at the party was pretty shallow and left early.	-0.15	1.53	-1.70	1.13
X prefers to go to a movie alone rather than with a friend.	-0.10	1.12	-1.95	1.19
X did not want to congratulate the winner of the competition.	-1.40	1.67	-1.85	1.50
X didn't go to his/her grandmother's funeral because he/she was too busy with work.	-2.60	1.47	-2.95	1.15
X often doesn't respond when his/her colleagues say hello at Work.	-2.05	1.43	-3.00	1.17
X yelled at a little girl for coloring outside the lines.	-0.85	2.06	-2.00	1.45
When asked to donate some money for the victims of the flood, X answered that they shouldn't have lived there in the first place.	-1.35	2.11	-2.40	2.06
X couldn't be bothered to give directions to a stranger.	-1.60	1.47	-2.15	1.23
NEUTRAL				
X enjoys reading a good novel.	0.60	0.88	0.45	0.83
X occasionally likes to go to a good restaurant.	1.15	1.39	0.90	1.12
On most days, X stops to get coffee on his/her way to work.	0.65	0.93	0.40	1.14
X told his parents he/she couldn't come home for the holidays.	0.50	1.50	-0.05	1.36
X likes to go for bike rides in the park.	1.20	1.20	0.80	1.11
Sometimes X goes to the gym for a workout.	1.65	0.88	0.50	1.24
When X gets home, he/she likes to check his/her e-mail.	1,35	1,137	,55	,759
X travels a lot by train	0.70	1.26	0.75	0.91
X prefers salted food for his/her breakfast	-0.25	0.79	0.05	0.39
X likes to buy fresh flowers on Sunday	0.65	0.93	0.80	0.95

Note. Behaviors in boldface are novel contributions by the authors. Other behaviors are from Judd et al. (2005).