Grouping Nationalities Based on Students' Estimation of Stereotype Contents in Switzerland

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Abstract

Social stereotypes influence people's perceptions of nationalities. To categorize the stereotypes about existing nationalities in Switzerland, the stereotype content model can be used. People with nationalities that are associated with low warmth and competence are at risk of being perceived as outgroup members and of being discriminated against, whereas people with nationalities that are rated as high in warmth and competence are more likely to be perceived as ingroup members and are therefore better accepted. Warmth is negatively associated with competition while competence is positively associated with status. Students ($N=101$) from various universities in the German-speaking part of Switzerland rated 70 nationalities along the dimensions of warmth, competence, competition, and status. The cluster analyses revealed four groups of nationalities along the dimensions warmth and competence. Levels in status and competition differed between those four clusters. In line with prior research, a negative relationship was found between competition and warmth and a positive relationship between status and competence. These findings allow to understand social stereotypes of nationalities based on empirical evidence. More importantly, the clusters can be used in future studies to compare groups of people with different nationalities who have specific stereotyping experiences.

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Introduction

Social stereotypes influence people's perceptions of nationalities. Several studies have shown that stereotypes, prejudice, and discrimination against people with specific nationalities exist in the minds of people in Switzerland (Binggeli et al., 2014; Falomir-Pichastor et al., 2004; Gabarrot et al., 2009; Krings & Olivares, 2007; Sarrasin et al., 2012) and other European countries (Falomir-Pichastor et al., 2004). Stereotypes that people have about nationalities are determined by cultural norms (Cuddy et al., 2009).

In Switzerland, as in other European countries, migration background is conceptually less associated with ethnic groups or race, but primarily associated with citizenship (Haug, 2019). Having a migration background means people have a non-Swiss citizenship or multiple citizenships (i.e., a Swiss and a non-Swiss citizenship or multiple non-Swiss citizenships). Children of non-Swiss citizens born in Switzerland do not necessarily have a Swiss citizenship. They must apply for citizenship through a formal procedure. People with migration backgrounds are either not born in Switzerland (first generation) or one or both of their parents are not born in Switzerland (second generation). The proportion of people who do not have a Swiss nationality has increased from 22.4% in 2010 to 24.6% in 2022; this is a high proportion compared to other European countries (Bartosik, 2022).

When investigating discrimination or inclusion of groups through quantitative studies, researchers often create groups of students (i.e., with versus without migration backgrounds; e.g., Bell et al., 2021). However, it is important to acknowledge that such a grouping inherently involves a substantial loss of information and that the group of people with migration backgrounds consists of individuals with different migration backgrounds. The generalization might not accurately represent the experiences of all individuals within the respective groups. It is crucial to recognize that the experiences of discrimination and stereotyping can vary significantly among these diverse nationalities. Some groups of nationalities are perceived more negatively than others and are thus at a higher risk of experiencing disadvantages. Identifying groups of nationalities that are confronted with similar stereotypes can help better understand attitudes towards and discrimination against them. In addition, it is important to consider that the grouping of nationalities based on geographical regions (e.g., Europe, Africa, Asia) can lead to an undifferentiated or even wrong picture.

The perception of the many nationalities in Switzerland has never been empirically studied based on similarities in social stereotypes using a theoretical concept. An empirical grouping involves reducing information, but to a lesser extent than when using a dichotomous categorization (i.e., with versus without migration backgrounds). Such a grouping of nationalities can be used in future quantitative research to compare groups of people that are confronted with similar prejudices. More importantly, stereotypes can lead to discrimination (Becker & Asbrock, 2012; Cuddy et al., 2007). Thus, gaining knowledge about the association between groups of nationalities and stereotypes can help to adjust integration policies for people with non-Swiss nationalities. To contribute to the research on

migration and integration, this study examines the research questions (a) which nationalities in Switzerland are perceived with similar stereotypes and (b) which dimensions of stereotypes are correlated.

To follow this goal, we use Fiske et al.'s (2002) stereotype content model, which is a well-established concept to structure stereotypes and intergroup perceptions. We prioritize this model against other models (e.g., dual perspective model; Abele & Wojciszke, 2007; behavioral regulation model; Leach et al., 2007; dimensional compensation model; Yzerbyt et al., 2005; agency-beliefs-communion model; Koch et al., 2016) because it best allows categorizing groups of nationalities based on stereotypes in Switzerland (Abele et al., 2021). In contrast to the other models, the stereotype content model focuses on the distinct images, prejudices, and discrimination directed towards various societal groups and offers a plausible framework for empirically describing stereotypes about an unlimited number of nationalities. This model allows us to identify stereotypes about groups of nationalities and to test our hypotheses using a quantitative empirical methodology. The methodology is based on the tradition of the stereotype content model and thus, it is most appropriate to answer our research questions. The findings will be embedded in existing research on the stereotype content model. Implications for future research and policy interventions are discussed.

Stereotype Content Model

Warmth and Competence

Stereotypes have been studied for decades. Fiske et al. (2002) summarized the prior knowledge about stereotypes and elaborated the stereotype content model. Stereotypes do not only differ in their valence (Abele et al., 2021), but in their content (Abele et al., 2016). The stereotype content model can be used to group nationalities based on stereotypes (Cuddy et al., 2009). It assumes that people perceive others based on two stereotype dimensions: warmth (e.g., friendliness and sincerity) and competence (e.g., capableness and confidence). Warmth stereotypes determine active behavioral tendencies attenuating harm and eliciting active facilitation (i.e., helping; Becker & Asbrock, 2012; Cuddy et al., 2007). Warmth is associated with showing friendly and supportive behavior such as nurturing or giving love. The level of warmth indicates whether there is a risk that evaluated people might be harmful. Warmth comprises morality and sociability (Abele et al., 2016). In Switzerland, people from countries such as Italy and Spain are stereotyped as warm (Binggeli et al., 2014).

Competence stereotypes define the ability of the evaluated groups to achieve their goals, which might be friendly or harmful (Becker & Asbrock, 2012; Cuddy et al., 2007). Competence is associated with high training, high strategic thinking, and knowledge. The level of competence indicates whether a person is likely to cause harm. Competence comprises agency and ability (Abele et al., 2016). In Switzerland, people from Germany and France are perceived as competent (Binggeli et al., 2014).

Warmth focuses on the motivation of people's influence. The level of competence describes the extent to which people are able to have an influence. Based on the stereotype content model, people of a country may perceive people with different nationalities as more or less warm and competent. (a) Nationalities can be perceived positively with high warmth and high competence and are therefore admired. (b) In contrast, people can be perceived as incompetent and cold and are thus rejected. The model also assumes the existence of ambivalent groups. (c) Groups that are perceived as competent and cold are envied and (d) groups that are perceived as warm and incompetent are pitied (Cuddy et al., 2007).

Groups of Nationalities

The level of warmth and competence can be related to multiple nationalities. Nationalities can be grouped based on their commonalities and differences in stereotypes. The stereotype content allows to group nationalities that are similar in their stereotype content. Prior studies have compared stereotypes between groups of countries. For example, Raymann (2003) reported that immigrants from Southern Europe were more liked in Switzerland than immigrants from Balkan countries. In line with this finding, Krings and Olivares (2007) showed that Kosovo-Albanian immigrant job applicants were more likely to be discriminated against than Spanish immigrant applicants.

Evidence also shows that people's national context influences their stereotypes (Cuddy et al., 2009). Thus, the stereotypes about nationalities vary between countries (Bell et al., 2021). The culture of the ingroup is characterized by specific beliefs that influence the stereotypes about other nationalities (e.g., Germany: Asbrock, 2010; Norway: Bye et al., 2014; the United States: Cuddy et al., 2007; Lee & Fiske, 2006; Italy: Durante, 2008; Russia: Grigoryev et al., 2019; Switzerland: Binggeli et al., 2014). For instance, Grigoryev et al. (2019), using a Russian sample, showed that stereotypes about people from Eastern European countries (e.g., Belorussia and Serbia) were characterized as high in warmth and competence, whereas Binggeli et al. (2014) showed that these nationalities were stereotyped as low in warmth and competence in a Swiss German sample. Therefore, cultural norms determine the legitimacy of having prejudices against specific groups (Crandall et al., 2002). This means that people in one country may have prejudices against a specific group, while people in the same country are not allowed to have prejudices against another group.

Ingroups and outgroups as well as two ambivalent groups of nationalities were found in several empirical studies (Cuddy et al., 2007; Durante, 2008; Grigoryev et al., 2019; Stanciu et al., 2017). In several European countries, people from countries such as Eritrea and Angola are perceived as an outgroup because they are estimated to strongly differ in welfare and competence and are perceived as harmful for ingroup members. Ambivalent groups could include people from countries such as Russia and Serbia (cold and competent), because they are seen as well-trained and competent, but offensive and potentially harmful for the ingroup. In contrast, Binggeli et al. (2014) found that people from Eastern Europe (as one category) were

stereotyped as incompetent and cold. However, these diverging findings could be explained by the categorization into one region including many different countries.

Social Structure: Status and Competition

The stereotype content model assumes that all complex societies have a hierarchical organization and compete for resources (Cuddy et al., 2009). Stereotypes are shaped by the perceived geographic, economic, and power relationships in a society (Bell et al., 2021). The core dimensions of stereotypes (e.g., warmth and competence) are thus correlated with structural dimensions of stereotypes (e.g., competition and status). The competitive stereotype indicates the striving for resources and power, at the expense of others if required. A nationality's status stereotype indicates a perceived ranking in an international hierarchy based on access to a combination of valued commodities such as wealth, power, and influence (Mueller & Parcel, 1981). High status comprises the perception that evaluated people have resources to help them cope with tasks. Following this rationale, people from wealthy Western European countries are likely to be perceived as high in status, whereas people from poor countries might rather be perceived as low in status. To sum up, the status describes a social position of individuals that defines the degree to which they can influence their environment. The level of competitiveness focuses on individual's willingness to influence their environment.

Cuddy et al. (2009) argued that the two stereotype dimensions of social structure (i.e., competition and status) determine the stereotype dimensions of warmth and competence assigned to nationalities. This means that people attribute high status to high competence and high competitiveness to coldness. People who have high competence can work successfully and are able to obtain high professional status. If people from a nationality are perceived as being competitive, these people would be stereotyped as less warm. A correlation between social structure and stereotype content has been confirmed empirically (Caprariello et al., 2009; Cuddy et al., 2009). The stereotype content model assumes that the correlations between social structure (i.e., competition and status) and the core dimensions of stereotypes (i.e., warmth and competence) are universal and can be found in the stereotypes about all nationalities. Therefore, correlations between competition and status with warmth and competence across various nationalities can be assumed. However, no study has calculated these correlations using ratings of many nationalities and thus, using a large data set of countries with multilevel correlations.

While prior research investigated correlations between competition and warmth with status and competence, the levels of competition and status were not compared between combinations of warmth and competence using a person-centered approach (Magnusson, 2003). For instance, the levels of perceived status and competition for nationalities with high competence and low warmth compared to nationalities with low competence and high warmth have not been studied. The present study contributes to the knowledge about the interrelationships between warmth and competence and their association with status and competition. This analytical approach is especially interesting for ambivalent stereotype groups. Warmth and competition

describe the degree to which individuals *want* to influence their environment. In contrast, competence and status describe the degree to which individuals *can* influence their environment. In other words, groups stereotyped as high in warmth and low in competence would be perceived as low in competition and low in status. Groups stereotyped as low in warmth and high in competence would be perceived as high in competition and high in status.

The Case of Switzerland

Binggeli et al. (2014) examined the stereotype content model using a sample in Switzerland. They included six countries (Italy, Portugal, Spain, Germany, Turkey, and France), three geographical regions (the Balkans, Africa, and Eastern Europe), and four anchor groups (rich people, poor people, housewives, and Swiss people). The results showed five stereotype clusters of countries and regions in the German-speaking part of Switzerland. Immigrants from France were perceived as warm and competent like Swiss people (ingroup). Immigrants from Eastern Europe, Turkey, Africa, and the Balkans were characterized as incompetent and cold. Binggeli et al. (2014) also found ambivalent stereotypes: Immigrants from Spain, France, Portugal, and Italy were perceived as warm but less competent, whereas immigrants from Germany were rated as competent but cold. However, grouping nationalities that are prevalent in Switzerland based on stereotypes was not possible because the analysis only included six countries. In addition, assessing stereotypes of entire regions with countries that are very diverse, such as Africa or Asia, can lead to an undifferentiated or even wrong picture of social stereotypes because stereotypes about nationalities within a continent may differ. Moreover, the analysis did not include a comparison with the structural dimensions between the groups. Finally, the findings may have changed in the last years due to societal and political events and changes.

Present Study

The present study partially replicates and extends Binggeli et al.'s (2014) study in Switzerland. Given that Binggeli et al. (2014) did not find any major differences between the Swiss language regions German and French, the current study was conducted only in the German-speaking part of Switzerland. The study included 70 nationalities and omitted geographical regions to obtain a description of the stereotype for each nationality. This allows a precise description and the grouping of nationalities based on stereotype contents independently of their geographic position. No study so far has systematically analyzed the stereotype contents of so many nationalities. Following the introduced rationale and based on prior studies (Cuddy et al., 2007; Durante, 2008; Grigoryev et al., 2019; Stanciu et al., 2017), four groups of nationalities confronted with similar stereotypes were expected.

In addition, the core stereotype dimensions were assumed to be correlated with the social structure dimensions of competition and status (Cuddy et al., 2009). Compared to warmth, competence is more strongly associated with status; compared to

competence, warmth is more strongly associated with competition. The following hypotheses were tested using quantitative empirical methods:

Hypothesis 1: In line with Fiske et al. (2002), the stereotypes about people with nationalities present in Switzerland can be grouped by high and low levels of warmth and competence in four clusters of nationalities using explorative cluster analysis: cluster 1 consists of the Swiss and the nationalities perceived as high in warmth and high in competence (e.g., Italian); cluster 2 includes rich people and nationalities that are rated as low in warmth and high in competence (e.g., German); cluster 3 includes poor people and consists of nationalities that are rated as low in warmth and low in competence (e.g., Turkish); and cluster 4 consists of housewives and nationalities perceived as high in warmth and low in competence (e.g., Portuguese).

Hypothesis 2: The stereotype groups are related with the structural dimensions of status and competition. Cluster 1 would be perceived as high in status and low in competition, cluster 2 as high in status and competition, cluster 3 as low in status and high in competition, and cluster 4 as low in status and competition.

Hypothesis 3: The two core dimensions of social stereotypes and the two structural dimensions are correlated. In stereotypes about nationalities, warmth is negatively correlated with competition and competence is positively correlated with status.

Methods

Following the rational of stereotype content model, we asked students living in Switzerland to rate stereotypes about nationalities found in Switzerland. The concepts were measured in line with the stereotype content model that allows the simultaneous assessment and comparison of multiple groups.

Participants

We used a sample of university students to analyze the hypotheses. The participants were not asked to report their personal estimation, but to give their estimation of the general attitude in Switzerland. Thus, only a small sample of individuals such as university students that can report the stereotypes within this country is needed (Friehs et al., 2022). University students have the required knowledge and experience to rate the stereotypes about many nationalities that exist in Switzerland. One hundred and one students from various universities in the German-speaking Switzerland participated. The sample comprised 70 women and 31 men ($M_{age} = 27.2$, SD = 6.4, range 19–50 years). The participants had Swiss citizenship or Swiss citizenship in combination with a second citizenship (91 participants), and 10 participants were non-Swiss citizens. Participants were recruited at the universities via mailing lists and online platforms and voluntarily participated in the study.

Measures

The perceptions of warmth, competence, competition, and status were measured using a German version (Binggeli et al., 2014) of the questionnaire developed by Cuddy et al. (2009). Friehs et al. (2022) showed that in general, these scales are reliable, are valid, and are metric and scalar invariant.

A nationality was included in the study if at least 2000 persons of the nationality lived in Switzerland in 2018 that means 0.023% of the 8544 Mio inhabitants of Switzerland (Federal Statistical Office, 2022). The number of nationalities had to be limited to reduce the number of ratings per participant. In total, seventy nationalities and four anchor groups were included (see Table 2). All nationalities and the anchor groups were estimated on four dimensions (i.e., warmth, competence, competition, and status). Responses were given on a 5-point Likert scale (1 = not at all, 3 = some, 5 = very much). Table 1 presents mean values, Ω values, missing values across all nationalities, and the ranges of the values across all nationalities.

Warmth was measured with four items (Binggeli et al., 2014); for example, "As viewed by society, how friendly are members of this group?" *Competence* was measured with four items (Binggeli et al., 2014); for example, "As viewed by society, how competent are members of this group?" *Competition* was measured with three items (Binggeli et al., 2014); for example, "The more power members of this group have, the less power people like me probably have." *Status* was measured with three items (Binggeli et al., 2014); for example, "How educated are people of this group?".

Procedure

Students filled out a 45-min questionnaire between September and December 2020. To assess the stereotypes of as many nationalities as possible, the questionnaire was divided into two versions. Each student only had to rate a part of the nationalities. After participants agreed to take part in the study, they were randomly assigned to one of two versions of the questionnaire. Version 1 was completed by 49 participants and version 2 by 52 participants. Each version consisted of 42 nationalities. In total, 14 nationalities in version 1 and version 2 were the same. Nationalities were

Table 1 Descriptives of scales on stereotype contents

	M_Ω	Ω_R	M	M_R	SD	SD_R	M_N	M_R
Warmth	0.86	0.69–0.94	3.30	2.54–4.25	0.48	0.50–0.92	3.00	0–9
Competence	0.79	0.56–0.89	3.23	2.33–4.22	0.51	0.42–0.76	2.97	0–9
Competition	0.82	0.58–1.00	2.85	2.15–3.91	0.32	0.74–1.15	4.03	0–11
Status	0.78	0.52–0.90	2.82	1.74–4.49	0.76	0.39–0.81	3.46	1–9

M_Ω mean Ω of all nationalities, Ω_R range of Ω of all nationalities, M mean value of all nationalities, M_R range of mean values of all nationalities, *SD* standard deviation f all nationalities, SD_R range of standard deviations of all nationalities, M_N average number of missing values for all nationalities, M_R ranges of missing values for all nationalities

randomly distributed between the two versions. Participants in both groups additionally rated four anchor groups. The anchor items were typical representatives of the four quadrants within Fiske et al.'s (2002) stereotype content model: rich people (low warmth/high competence), poor people (low warmth/low competence), housewives (high warmth/low competence), and the ingroup Swiss people (high warmth/high competence). Experimental studies showed that the judgment of a nationality as warm or competent depended on prior judgments of nationalities (Kervyn et al., 2008). If a nationality was judged as warm, a following judgment of a new nationality was colder (contrast effect) and vice versa. The same was found for judgments about competence. Therefore, nationalities and anchor groups in the present study were presented in the questionnaire in a randomized order.

Analytical Strategy

Both versions of the questionnaire only included a part of the 70 nationalities. Fourteen randomly selected nationalities (four from Western Europe, two from Eastern Europe, two from Africa, two from Asia, two from South America, and one each from North America and Australia) and four anchor items were assessed as reference items in both versions of the questionnaire.

Multivariate ANOVA was used to check whether the two questionnaire versions led to significant differences in the mean values of the factors (i.e., warmth, competence, status, and competition) for the 14 nationalities and the four anchor items that were included in both versions. The multivariate ANOVA with the 72 factors was not significant (F [1, 69] = 23.9, ns). Univariate ANOVA was only significant for United States for competition (F [1, 69] = 9.2, $p < 0.01$, $\eta^2 = 0.12$) and Finland for status (F [1, 69] = 5.0, $p < 0.05$, $\eta^2 = 0.07$). The effect sizes were negligible. Therefore, the two groups of participants were largely in agreement.

Based on the 14 nationalities that were the same in both versions, the missing values were estimated. The missing pattern was at random (Graham, 2009). All missing values were imputed 10 times using multiple imputation procedure implemented in SPSS (version 28).

Values for nationalities were nested within participants. Thus, the data set was rearranged with the nationalities as cases to calculate the clusters. To identify groups of nationalities (hypothesis 1), hierarchical cluster analyses using the ward algorithm were run using SPSS. Iterative cluster analyses with the k-means algorithm were calculated for a three- to seven-cluster solution to improve the cluster. Prior research on stereotype content model always identified the number of clusters within this range. This range allows to test alternatives outside of the four-cluster solution. To determine the appropriate number of clusters, the F values for warmth and competence and the index of Calinski and Harabasz (1974) for cluster solutions with three to seven clusters were calculated.

Two different cluster analyses were calculated. The first cluster solution included the anchor items that helped interpret the clusters. In the second cluster solution, the four anchor items were excluded to obtain a pure grouping of non-Swiss nationalities.
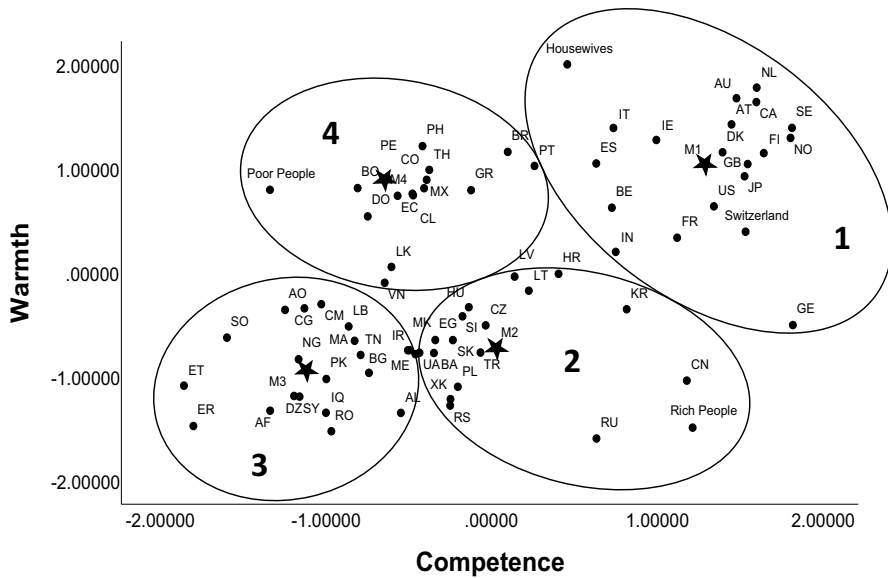
Fig. 1 Solution with four clusters for the included nationalities and the four anchor groups. *Note*: The illustration shows the *z*-standardized values. The stars mark the cluster averages. The abbreviations and names of the nationalities are listed in Table 2

For both cluster solutions (with and without anchor items), the homogeneity and distinctiveness of the clusters were calculated with the first imputed data using analysis of variance (ANOVA). In a next step, the relationships between the clusters and the social structure dimensions status and competition were analyzed using ANOVA with repeated measurement. Finally, the stereotype dimensions warmth and competence were correlated with the dimensions status and competition using multilevel correlation analyses with the nationalities as level 1 and the participants as level 2 with Mplus 8 (type is complex; McNeish et al., 2017; Muthén & Muthén, 1998).

Results

Grouping Nationalities Based on Stereotypes

The *F* values indicated the five-cluster solution was superior, whereas the index of Calinski and Harabasz (1974) preferred the three-cluster solution. Both analyses indicated the four-cluster solution was second best. Thus, based on these indicators and on our hypothesis, we chose the four-cluster solution. Figure 1 and Table 2 depict the nationalities grouped in four clusters on the dimensions, warmth and competence.

Cluster 1 has high levels of warmth and competence in relation to the other clusters. In line with hypothesis 1, it is represented by the anchor items Swiss people.

Table 2 Stereotypes about nationalities in four clusters with means for competence and warmth

	Cl 1 - Admire	C	W		Cl 2 - Envy	C	W		Cl 3 - Rejection	C	W		Cl 4 - Pity	C	W
	Housewives	3.52	4.25		Rich People	3.91	2.59	AF	Afghanistan	2.61	2.68		Poor people	2.59	3.67
	Switzerland	4.07	3.48	BA	Bosnia and Herzegovina	3.11	2.90	AL	Albania	2.91	2.72	BO	Bolivia	2.87	3.62
AT	Austria	4.01	4.01	CN	China	3.87	2.79	AO	Angola	2.66	3.14	BR	Brazil	3.30	3.80
AU	Australia	4.04	4.10	CZ	Czech Republic	3.30	3.08	BG	Bulgaria	2.88	2.83	CL	Chile	3.05	3.64
BE	Belgium	3.68	3.69	EG	Egypt	3.09	3.02	CG	Congo	2.67	3.17	CO	Colombia	3.04	3.71
CA	Canada	4.05	4.06	HR	Croatia	3.49	3.28	CM	Cameroon	2.73	3.10	DO	Dominican Republic	2.91	3.57
DK	Denmark	4.03	3.88	HU	Hungary	3.21	3.14	DZ	Algeria	2.73	2.74	EC	Ecuador	2.96	3.73
ES	Spain	3.62	3.82	IR	Iran	3.03	2.97	ER	Eritrea	2.44	2.52	GR	Greece	3.21	3.67
FI	Finland	4.11	3.96	KR	South Korea	3.63	3.12	ET	Ethiopia	2.32	2.79	LK	Sri Lanka	3.03	3.29
FR	France	3.86	3.44	LT	Lithuania	3.36	3.22	IQ	Iraq	2.86	2.66	MX	Mexico	3.08	3.63
GB	United Kingdom	4.03	3.77	LV	Latvia	3.35	3.31	LB	Lebanon	2.81	3.00	PE	Peru	3.01	3.73
GE	Germany	4.22	3.08	ME	Montenegro	2.93	2.96	MA	Marocco	2.83	2.94	PH	Philippines	3.07	3.83
IE	Ireland	3.79	3.88	MK	Northern Macedonia	3.07	2.90	NG	Nigeria	2.95	3.64	PT	Portugal	3.41	3.76
IN	India	3.64	3.47	PO	Poland	3.12	2.77	PK	Pakistan	2.76	2.80	TH	Thailand	3.02	3.72
IT	Italy	3.65	3.94	RS	Serbia	3.13	2.70	RO	Romania	2.78	2.54	VN	Vietnam	3.04	3.17
JP	Japan	3.98	3.68	RU	Russia	3.60	2.49	SO	Somalia	2.42	2.96				
NL	Netherlands	4.10	4.12	SI	Slovenia	3.20	3.05	SY	Syria	2.68	2.74				
NO	Norway	4.24	3.83	SK	Slovakia	3.21	3.11	TN	Tunisia	2.74	2.85				
SE	Sweden	4.12	3.99	TR	Turkey	3.22	3.09								
US	United States of America	3.95	3.61	UA	Ukraine	3.10	2.83								
				XK	Kosovo	4.03	3.77								

Cl Cluster, *C* Competence, *W* Warmth

It includes many nationalities in Western Europe as well as the United States, Australia, and Japan. In contrast to hypothesis 1, this cluster also includes Germany and housewives.

Cluster 2 is low in warmth and medium in competence and in line with hypothesis 1; it is represented by the anchor item rich people. It includes nationalities such as Hungary, Serbia, Russia, Slovakia, Turkey, South Korea, and China.

Cluster 3 is low in warmth and competence. It includes nationalities such as Angola, Congo, Cameroon, and Eritrea, as well as Afghanistan and Pakistan. Contrary to hypothesis 1, it does not include the anchor item poor people.

Cluster 4 has high levels of warmth and low levels of competence, and it is represented by the anchor item poor people. In line with hypothesis 1, it includes nationalities such as Bolivia, Brazil, and Ecuador as well as Greece, Thailand, and Sri Lanka.

To validate the cluster solutions, we calculated a 2 (stereotype dimension: warmth and competence) $\times$ 4 (clusters) ANOVA, with stereotype dimensions as within subject variable and cluster as between-subject variable over the included nationalities and anchor items. The dimensions warmth and competence ($F = 2.95$, df $= 1$, 70, $p = 0.090$) did not significantly differ indicating the mean level of warmth and competence being similar. Differences between clusters ($F = 30.48$, df $= 3$, 70, $p < 0.001$) were significant. The four-cluster solutions explained 78.7% of variance for warmth and 81.9% of variance for competence. The means, results from F-tests, and post hoc tests (Scheffé) are presented in Table 3.

The iterative cluster analysis with four clusters was repeated without the four anchor items. To validate this cluster solution, a 2 (stereotype dimension: warmth, competence) $\times$ 4 (clusters) ANOVA was calculated. The dimensions warmth and competence ($F = 3.53$, df $= 1$, 66, $p = 0.065$) did not differ significantly, but the factor cluster was significant ($F = 34.46$, df $= 3$, 66, $p < 0.001$). The four-cluster solution explained 79.4% of the variance by warmth and 84.9% of the variance by competence. Compared to the primary cluster analysis, no country changed the cluster.

Social Structure and Groups of Nationalities Based on Stereotypes

To analyze the relationship between the groups of nationalities and the dimensions of social structure (status and competition), we calculated a 2 (social structure dimension: competition, status) $\times$ 4 (clusters) ANOVA over the nationalities and anchor items. In line with hypothesis 2, status and competition significantly differed between most clusters (status and competition: $F(1, 70) = 2.39$, $p = 0.127$; cluster: $F(3, 70) = 97.24$, $p < 0.001$). Cluster means for both dimensions and Scheffé tests are presented in Table 3. In line with hypothesis 2, for ambivalent clusters, effects of competence on status dominated over warmth, and effects of warmth on competition dominated over competence.

Table 3 Competence, warmth, status, and competition stereotypes by cluster (z standardized)

Cluster	Competence		Warmth		Status		Competition	
	M	SD	M	SD	M	SD	M	SD
1 Admire (HW–HC)	1.31	0.43	1.04	0.61	1.23	0.66	− 0.92	0.69
2 Envy (LW–MC)	0.04	0.53	− 0.73	0.44	0.08	0.70	0.53	1.02
3 Rejection (LW–LC)	− 1.11	0.35	− 0.94	0.40	− 0.97	0.27	0.76	0.53
4 Pity (HW–LC)	− 0.47	0.38	0.76	0.36	− 0.59	0.26	− 0.43	0.41

Cluster labels indicate level of competence and warmth (*H* high, *M* medium, *L* low, *W* warmth, *C* competence)

Scheffé post hoc tests ($p < .05$): warmth: cluster 1 > 2, 3; cluster 2 < 4, cluster 3 < 4. Competence: cluster 1 > 2, 3, 4; cluster 2 > 3, 4; cluster 3 < 4. Status: cluster 1 > 2, 3, 4; cluster 2 > 3, 4. Competition: cluster 1 < 2, 3; cluster 2 > 4, cluster 3 > 4

Correlations Between Social Status and Stereotype Dimensions

To test hypothesis 3, multilevel correlations (level 1: nationality, level 2: person) between the dimensions warmth, competition, competence, and status were calculated (Table 4). As hypothesized, warmth positively correlated with competence and status and negatively correlated with competition. Competence positively correlated with status and negatively correlated with competition. Therefore, consistent with hypothesis 3, significant correlations between structural and cultural dimensions over the included nationalities were found.

Discussion

The study aimed to identify groups of nationalities that are confronted with similar stereotypes in Switzerland using Fiske et al.'s (2002) stereotype content model and extending Binggeli et al.'s (2014) study. Based on the dimensions warmth and competence, for the first time, 70 nationalities were clustered. Four clusters were identified, which is in line with prior studies from several countries and time periods (Cuddy et al., 2007; Durante, 2008; Grigoryey et al., 2019; Stanciu et al., 2017), but differs from the results of Binggeli et al. (2014) using six nationalities and three geographical regions. The first cluster was characterized by high values in warmth and competence and included Swiss and nationalities such as French and British

Table 4 Standardized multilevel correlations of stereotype dimensions

	Warmth	Competition	Competence	Status
Warmth	1	− 0.30***	0.36***	0.26***
Competition		1	− 0.18***	− 0.12**
Competence			1	0.62***
Status				1

N (level 1) = 7474 nationalities, N (level 2) = 101 persons; ***$p < .001$; **$p < .01$ (two-tailed)

(ingroup). Contrary to the expectations, this cluster also included housewives and the German nationality. This positive stereotype about Germany could be explained with the contact theory (Pettigrew & Tropp, 2008). The many personal contacts Swiss citizens might have with German nationals could lead to perceiving them as ingroup members. The second cluster, which was characterized by low warmth and medium competence, consisted of rich people and nationalities such as Polish, Turkish, and Chinese (ambivalent group). The third cluster was low in warmth and competence (outgroup). It included nationalities such as Congolese and Syrian. The fourth cluster was rated as high in warmth and low in competence and included poor people and nationalities such as Portuguese, Mexican, and Thai (ambivalent group).

While many nationalities that are in the same region were rated with similar stereotypes (e.g., European nationalities), some nationalities in the same region were perceived differently. For instance, although both countries are in Asia, the Japanese nationality was perceived along similar stereotypes as most European nationalities (i.e., warm and competent), whereas the Chinese nationality was perceived as cold and competent (ambivalent group). The Greek nationality was grouped with nationalities such as Thai and Bolivian, even though Greece belongs to Western Europe. These findings show that assessing the stereotypes of a high number of nationalities rather than geographical regions can help to gain a more differentiated picture of stereotypes against immigrants with those nationalities. Geographical regions alone are not a valid criterion to group nationalities, because they can consist of countries that are diverse with respect to economic power and culture (Bell et al., 2021).

In contrast to Fiske et al. (2002), poor people were rated as warm but low in competence and were therefore assigned to cluster 4. Housewives were described as warm and competent and were therefore assigned to cluster 1. Using a U.S. sample of students, Cuddy et al. (2007) also found that poor people were described as medium in warmth and low in competence and that housewives were perceived as competent and warm. Thus, Fiske et al.'s (2002) assumptions about the characteristics of the anchor items should be examined in future research and could be revisited.

The results also showed a positive relationship between status and competence and a negative relationship between competition and warmth, which is in line with previous findings (Cuddy et al., 2009). People from countries with high economic power were rated as highly competent. For example, people from Western European countries, such as the Netherlands and Sweden, were stereotyped with high competence and high status. In contrast, people from countries with lower economic power and higher levels of poverty, such as Eritrea and Somalia, were associated with lower competence and lower status. Stereotypes of nationalities may be based on information about socioeconomic conditions or history and be shaped by comparisons and contrasts with geographically close or competing cultures.

Strengths and Weaknesses

For the first time, 70 nationalities prevalent in Switzerland were clustered based on the stereotype content model. The cluster analyses revealed a plausible and

empirically based grouping of nationalities. However, it was not possible to include all 195 nationalities that exist in Switzerland because the task of rating all dimensions for all nationalities would have been too demanding for the participants. The ratings of the many similar items could reduce data quality. The four-cluster solution was robust because it was replicated after omitting the four anchor items. In contrast to Binggeli et al. (2014), the study could not be conducted in more than one Swiss language region. Binggeli et al. (2014) reported only minor differences in the stereotypes between the language regions. Thus, similar findings could be assumed for the French-speaking part of Switzerland. Some findings could not be replicated from Binggeli et al. (2014). This may be due to the time lag of 8 years between data collections. Within this period, many societal and political events could have changed the stereotypes about some nationalities (Bell et al., 2021), although stereotypes were considered to be stable over time (Abelson, 1994). In consequence, findings of prior research are only partially a reliable reference for the present findings (Garcia-Marques et al., 2006). Unfortunately, no newer study is available to compare our findings. Finally, the correlations between warmth and competence with competition and status provide new insights into the stereotypes of nationalities that are commonly found in Switzerland. However, the correlations should not be causally interpreted. For example, the status and the competition level do not causally affect warmth and competence.

Practical Implications

For the first time, this study identified four groups of nationalities that are confronted with similar stereotypes in Switzerland. These stereotypes can explain attitudes and discrimination towards people depending on their nationality. Groups of nationalities that are perceived as low in warmth and competence could be confronted with similar forms of discrimination and thus be more at risk of societal exclusion. In contrast, people that are perceived as high in warmth and low in competence are pitied (Cuddy et al., 2007) and people that are perceived as low in warmth and high in competence are envied. The findings reveal with which stereotypes immigrants with different nationalities are confronted with in Switzerland. These new insights into stereotypes can also help sensitize people to prejudice and discrimination against people from specific nationalities (Fiske et al., 2002).

This study created an empirically based clustering of nationalities that can be used in future studies on discrimination or social exclusion (e.g., in the school context). This allows to compare groups of people with migration backgrounds with each other and thus to represent the realities of the groups more accurately. Such a clustering may be especially useful in research on cultural integration and educational inequality. For instance, teachers share common stereotypes in a society and thus influence student learning and student achievement (Fiske & Neuberg, 1990; Neuenschwander & Niederbacher, 2021). In addition, similarities in stereotypes about groups of nationalities can also provide knowledge about prejudices and

discrimination in the labor market. To effectively support individuals' chances to achieve a successful life, more research is needed on stereotypes about social groups.

Declarations

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