**The influence of Intercultural Training Programs on Implicit and Explicit Levels of Attitudes towards Foreigners**

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**Abstract:**
Reports about increasing violence against immigrants and foreigners and ethnic or religious motivated wars reveal the need of educational concepts to decrease xenophobia as a possible source for these problems. In this study an intercultural multimedia program was developed and evaluated. Its target is to address and discuss various forms of alienation and the nature of cultural differences. The computer program was based on research about intercultural teaching strategies and their educational effectiveness. To evaluate the intercultural training sessions, tools and methods have been developed to measure attitudes toward foreign people. Based on a multi-methodological approach, an evaluation-tool has been created, which allows assessing long-term and short-term intervention effects. Beside established questionnaires we used an implicit association test procedure. These measures were applied in a study with 61 participants (60.7% female) aged between 12 and 16 (M= 13.84, SD= 1.10). Although results did reveal significant effects of explicit questionnaire measures, there was a significant change in implicit measures regarding attitudes toward culturally distant stimuli. This result implies that the chosen tutorial methods lead to a verifiable change towards more positive attitudes on a state-level within the xenophobic self-concept that might beneficially impact subsequent long-term effects on a trait level.

**Introduction:**
Understanding each other with their and our own cultural background is one of the most important skills nowadays in a society with a changing demography and the progress of globalization. Every day we are faced with situations that we might perceive as strange, because something or someone is not part of our culture and our perceived environment. In order to cope with new situations and processes that derive from intercultural exposure and exchange, education might support the process of establishing peaceful coexistence of cultures. Here intercultural education might contribute to support a change of perspective in order to reduce prejudice, resentments and unreasonable fears of any type of foreignness within our society.

Most of our beliefs and ideas of other countries and cultures are not based on personal contacts with foreign people but rather are outcomes of traditional lore (cf. Budke, 2008). Such tradition might manifest itself in xenobohically motivated jokes, in expressions, cartoons, etc. but also in propaganda of ultraconservative and right-wing parties. Stereotypes might lead to more than doubtful conclusions and predictions about people from foreign countries and different cultures. Sometimes even teaching at school, especially geography teaching that is not contemporary any more might contribute to the genesis of stereotypes (cf. Markom & Weinhäupl, 2007). Demographic change makes immigration necessary to sustain our Western socio-economic system. Here intercultural competences and, thus, intercultural education is necessary foster cooperation in a multicultural society.

The processes of globalization lead to the fact that people are more often confronted with strangeness within their traditional settings.

In order to avoid a “Clash of Civilizations” as predicted by Huntington (1993) and to assure that ethnical diversity will be recognized as an economic and social chance, a specialized education seems
to be necessary here. This specialized education should mediate national and cultural differences among people with different backgrounds here.

The study presented here was designed to develop and to examine a specialized educational training program. Therefore a multimedia training program based on recent psychological and pedagogical research findings has been developed. The major objective of this learning program was to foster attitudinal change in students regarding prejudices, stereotypes and perception of strangeness against people from other cultures. Nevertheless, developing and conducting such training does not automatically guarantee its success, but rather has to be evaluated. This addresses another problem, because measuring and assessing prejudices, stereotypes or other dimensions of xenophobia implies to use a multi-methodological approach in order to obtain not only explicit but also covert, implicit values.

Thus, as part of this empirical study, several tools and methods have been developed and used to measure xenophobic attitudes and stereotypes. The study was designed to answer the research question, if a learning environment using a multimedia design can lead to a significant change in open attitudes as well as the rather covert and implicit xenophobic self-concept.

Nevertheless, the question remains, if education per se can lead to a verifiable change in xenophobic attitudes. On one hand a high level of education is often seen as a predictor of tolerance related to foreign cultures and positive attitudes towards a multicultural society (cf. Güttler, 2003). On the other hand a relationship between the level of education and tolerance against other cultures is a sometimes doubted but a proofed fact as Rippl and Seipel (2002) and Noak (2001) were able to show. A major assumption in social psychology was that a change of xenophobic behavior can only be realized by a change of attitudes (Mummendey, 1988), but meanwhile scientists rather suggest that this sequence is the other way round, i.e., that a change in behavior affects a change of attitude (cf. Bem, 1974; Mummendey, 1988; Pettigrew & Martin, 1987). Thus, the major aim of the chosen instructional design here was to reflect learners’ behavior towards foreigners and, thus, subsequently change their attitudes. The success of these learning programs depends on the strength of negative associations towards cultural distant stimuli and the ability to change them. The associations are commonly a product of socialization and educational processes which were developed over years.

Towards a General Xenophobic Model
Implicit prejudiced attitudes are introspectively unidentified traces of past experiences (e.g., Greenwald & Banaji, 1995). We suggest here a General Xenophobic Model (GXM) that describes the specific developmental processes that might result in xenophobic cognitions. It is based on general explicit and implicit learning models (e.g., the General Affective Aggression Model; cf. Anderson & Bushman, 2001). The basic assumption of the GXM is that there is a connection between observation, socialization and specific xenobically motivated behavior (cf. Blümke, Friedrich & Zumbach, 2010).

The GXM has been designed to form a framework of understanding the cognitive processes which are based on repeated observations that lead to xenophobic attitudes. The model also considers implicit cognitive processes and integrates the dual process model by Devine (1989). It describes automatic and controlled components in relation to the development of stereotypes.

The Model shows the importance of observation regarding the genesis of xenophobic behavior. The observation can be realized in direct contact (primary experience) or communication (secondary contact; Müller, 2004).
The model describes primarily short-time processes of how to xenophobic memory representations might occur. Within a specific situation, a person is confronted with, e.g., one or more persons from another and different culture. Hereby, the person is in a specific state (e.g., he/she is frustrated due to specific reason) that acts also as an input in subsequent information processing together with characteristics of the situation. The processing of these inputs can be done affectively, cognitively, and on an arousal level. Let us assume that the person is frustrated, because he or she has just lost his or her job. He or she watches a TV advertisement of a right wing party where unemployment is attributed to the high number of immigrants that take jobs from nationals. Here the person can process the input cognitively and, thus, might internalize a causal relation between unemployment, immigrants and his or her personal situation. Her or she might also react affectively, e.g., by increasing anger on immigrants. In addition, this might increase accompanying processes that trigger physiological arousal like an increased pulse rate or blood pressure. The information processing results in an evaluation of the situation that might lead to explicit and thoughtful reaction (e.g., by actively supporting or voting for the party) and/or implicit and rather impulsive behavior (e.g., impulsively railing against immigrants) that might impact subsequent social interactions. If the xenophobic behavior does not lead here to negative, but rather neutral or positive consequences for the person, the probability of acquiring xenophobic attitudes and memory structures increases and might lead to new, similar situations, information processing and evaluation processes. Thus, the cycle begins again and might support xenophobia. It is also central here, that the situation does not have to necessarily experienced in real world but can also be mediated by media (cf. Esser, Scheufele & Brosius, 2002).
Repeated consumption of prejudicial media and observation of racist behavior might contribute to the development of xenophobic knowledge structures. Such structures are usually complex and very difficult to change. They lead to conscious (explicit) and impulsive (implicit) decision making (cf. Devine, 1989) and corresponding social interactions and social priming (e.g., Berkowitz, 1993). The first automatic reaction and the following controlled judgment of the person or situation leads to specific behavior. Persons with a strong tendency toward xenophobic behavior can easily access xenophobic behavioral scripts due to social priming situations (e.g., shown by Greenberg and Pyszczynski, 1985, who were able to show that racist statements can easily activate stereotypes and, thus, lead to discriminatory acts).

Continuous and repeated experience of the cycle of the short-time model might contribute to permanent long-term effects. These long-term consequences are illustrated in Figure 2. Long-term learning processes are triggered by repeated observation of xenophobic behavior. Possible consequences might be here xenophobic beliefs and attitudes (cf. Bacher, 2001), xenophobic patterns of perception (Wahl, 2003), prejudiced behavioral scripts (Greenberg & Pyszczynski, 1985), a desensitization towards xenophobic statements and a growing distance towards foreigners (Wahl, 1999). All these effects are caused by exposition, socialization and observational learning. In addition, xenophobic attitudes can be result of socialization (Bacher, 2001). Family and social network play here a major role. While Wahl (2003) still assumes that xenophobic attitudes are the product of evolutionary processes, it is rather a consequence out of learning experiences and observational learning that leads to negatively associated stereotypes against foreigners from a different culture. In addition, people that already have developed xenophobic tendencies often avoid contact with cultural distant material or people. But exactly this contact might reduce xenophobic attitudes: according to the contact-hypothesis, intercultural contact has a positive impact on attitudes towards foreigners (cf. Allport, 1954). Taken together, the suggested model assumes that each single xenophobic episode can contribute to the activation of xenophobic knowledge structures. Such structures might contain biased perception schemata such as illusory correlations (cf. Shavitt, Sanbonmatsu, Smittipatana & Posavac, 1999) or hostile expectations (cf. Anderson & Bushman, 2001). In addition, repeated experience of the cycle might also lead to desensitization towards hostile behavior against people from other cultures. Taken together, these factors might contribute
to a change in personality towards a xenophobic personality (similar to learning results in aggressive behavior, cf. Anderson & Bushman, 2002; Möller, 2006).

Evidence is here provided by Huesman (1994) who describes a strong connection between socialization and personality development. Changes of the social surroundings can influence a person’s personality. Besides the socialization in families, the contact persons outside of the family can have a high impact on personality development. The peer group plays here an important role (cf. Huesman, 1994). If the peer group has a high acceptance of xenophobia, the adolescent may also tend to accept this attitude. In addition, non-xenophobic peers tend to be rejected by members of xenophobic peers, while like-minded people attract each other. It is therefore assumed that the kind of learning as described in the model above (e.g., by observational learning) can significantly influence the perception of strangers and strangeness. The question remains, if implicit and explicit decision making can be even influenced by rather short time instructional interventions which aim on reflecting several situational or personal input variables. Another question that arouses simultaneously is how to measure the influence of such approaches on implicit knowledge structures. The present study will provide answers to both of these questions by providing the evaluation of an intercultural training program as well as a proprietary Implicit Association Test (IAT) to assess changes in implicit knowledge structures related to the perception of cultural distant material and people.

The Implicit Associations Test
The Implicit Association Test (IAT) is a method which has been developed by Greenwald and Banaji (1995). With the IAT it is possible to assess automated cognitive processes. It is designed to detect a person’s associations’ strength between different mental concepts. Generally it is possible that there is a divergence between explicit and implicit measurement results. That means that it is possible to be prejudiced without having this attitude consciously. These unconscious attitudes can influence our automatic and spontaneous behavior (Gawronski, 2006).

The IAT was developed as an instrument to measure individual differences in automatic activation of semantic and evaluative associations (Gawronski & Conrey, 2004). Thus, the implicit association test opens up the possibility to assess implicit cognitive processes. It is a reaction-time-based measurement method of automatic association strength between concepts.

Theoretical background of the IAT
One of the approaches of explanation of the IAT-effect is the Spreading-Activation Theory of Semantic Processing (Collins & Loftus, 1975). It assumes that if concepts in memory are activated, concepts that have been learned or experienced in association with the activated concept will also be activated. In this way many concepts are connected to each other.

In the IAT- Task one has to categorize various stimuli into dichotomous concepts. Faster reaction times indicate stronger associations. Congruent tasks can be solved faster than association-incongruent tasks (Greenwald et al., 1998). Because it uses complementary pairs of concepts and attributes, the IAT is measuring the relative strength of pairs of associations (Greenwald & Farnham, 2000). Absolute strength of single associations cannot be measured. It is not assessing the strength of associative links of memory structures but rather the difference between various associative links (Greenwald & Nosek, 2001). Thus, by measuring spontaneous, automatic and unconscious processes, the implicit attitude can be mapped. The main difference between explicit and implicit measurement methods is that implicit methods do not allow an introspective approach to the assessed construct. Here the conscious control of the question answering process is limited (Gschwendner, Hofmann & Schmitt, 2006). Implicit attitudes are introspectively unidentified traces of past experiences that mediate favorable or unfavorable feelings, thought or action toward social objects (Greenwald & Banaji, 1995) and they influence our spontaneous behavior (Gschwendner et al., 2006). They can be seen as better predictor of behavior then self-reported attitudes because a person might lack the ability to introspect his- or herself correctly (Brunel, Tietje, & Greenwald, 2004).
An Implicit Associations Test to Assess Xenophobic Self-Concepts

For the multi-methodological approach as chosen here in order to assess the short-time effects of an intercultural training program an Implicit Associations Test to assess xenophobic self-concepts has been developed. In a first pilot study familiar (cultural proximal) and unfamiliar (cultural distant) visual stimuli for the IAT have been identified.

The used visual material was partial taken of the International Affective Picture System (IAPS, 1997) as well as pictures from daily life in Austria. To get dichotomous categories for the IAT, the visual material had been evaluated regarding the degree of familiarity/unfamiliarity. 80 participants (47.2% female), aged 10 to 76 (M= 19.95; SD= 9.75) took place in this study using a semantic differential. 61.2% were students of Austrian highschools. 31.2% were university students 7.6% were others.

We performed a principal component analysis of the resulting data with Varimax rotation. KMO (.500) and Bartlett’s sphere test (.005) were also conducted. Using the factor analysis the pictures were divided into an unfamiliar (cultural distant; see Figure 4) and a familiar category (cultural proximal; see Figure 5). The pictures were integrated into the IAT within dichotomous categories of familiar vs. unfamiliar.

Figure 3: Example pictures from the category of cultural distant stimuli.

Figure 4: Example pictures from the category of cultural proximal stimuli.

Main Study

Method
The following study describes the development, application and assessment of an intercultural training software as well as a methodological toolkit in order to assess short- and long-term effects of specific instructional interventions in order reduce xenophobic attitudes and schemata. In an experimental, one-factorial design with repeated measurement this methodology has been applied.

Participants
The experiment took place at Austrian high schools. Overall, 61 students (60.7% female) aged between 12 and 16 (M= 13.84, SD= 1.10) participated. Participation was optional during school time. No reward was given.
**Material**
The basic intervention of this study was to have students work on a proprietarily developed computer-based learning program that was designed for reducing xenophobic attitudes and schemata. The software consisted out of several modules with the main purpose to make learners familiar with elements of strangeness and to accept cultural distant stimuli as well as to reframe them as part of everyday life.

One major aim of the multimedia program was to resolve the controversy of religious and cultural symbols. The underlying instructional design was based on different social and educational theories as symbolic interactionism (Mead, 1978) and symbol didactics (Biehl, 1991). In everyday life symbols play an important role considering communication and identity formation, but also for localization in social space (cf. Holzwarth 2001). So the program’s main purpose was to face students with foreign but also familiar symbols and to use them for discussing various types of alienation. Learners had to conduct several analytic tasks that addressed learners’ own biography and its relation to cultural distant stimuli in their everyday life. Thus, the encounter between familiar and alleged strange scenes and information, mostly presented by images and films, played a major role. Taken together, this should contribute to a kind of auto-biographical self-reflection combined with a re-calibration of one’s own role within a globalized world that almost always represents cultural distant representation (cf. Gudjons, Pieper & Wagener, 1986; Penny et al., 2000).

![Figure 5: Screenshots of the multimedia Learning environment](image)

This dialectical cross-linking of self-reflection and incorporating new insights is a central part of intercultural education (Zielke, Meier & Bollacher, 2005). Especially the reflection of one’s own thinking and acting as well as his or her position in our world is an important aspect of multicultural education that allows to detect misconceptions towards what is originally assumed to be strange and culturally distant (Hejazi, 2009).

**Design and Procedure**
A repeated measurement design was implemented using the IAT as one dependent variable. Other dependent variables on an explicit level of assessment has been used by integrating the scale “motivation to unbiased behavior” (Banse & Gawronski, 2003) with subscales “Behavioral control” (e.g., “You should never laugh at jokes about foreigners”), “Admission of prejudice” (e.g., “You should never be guided by prejudices”), and “unprejudiced self-perception” into the design. In addition, the scales “xenophobic attitude” (e.g., “Foreigners commit more crimes than Austrians”) by Bucher, Gollner and Auer (2001) with subscale “Active position against xenophobia” (e.g., “If someone complains about foreigners, I disagree to him/her”), and “Attitude towards foreigners” (e.g., “Foreigners have jobs Austrians should have”; Frindte, 1999) has been used.
After completing the questionnaire and performing the pre-test IAT, 61 students worked with the multimedia environment for two teaching units with about 100 minutes in sum followed by the post-test with the same measures as in the pre-test.

**Results**

Regarding the difference in explicit measures as assessed with the previously described scales there was no significant change in mean values before and after the training sessions (see Figure 6).

![Explicit Measures](image)

**Figure 6: Explicit Measurement Results**

However, regarding the implicit measure as assessed with the IAT, outcomes revealed a significant difference between pre- and posttest (see Figure 7). After the teaching sequence, this result implies that the chosen tutorial methods lead to a verifiable change in attitudes on trait and state-level regarding the xenophobic self-concept.

![IAT- Score](image)

**Figure 7: Implicit Measurement Results**

**Discussion**

This study examined the consequences of intercultural multimedia training on implicit and explicit attitudes towards cultural distant stimuli. The basic assumption here was that a dialectical cross-linking of self-reflection and incorporating new insights by means of the educational software as developed for this research contributes to detect and overcome misconceptions towards what is
originally assumed to be strange and culturally distant. The chosen evaluation approach here consisted out of a multi-methodological approach that was addressed to assess explicit as well as implicit variables that reflect different aspects of xenophobic attitudes, beliefs, and self-concept. Another aim, besides proving the sustainability of the chosen instructional approach, was to validate parts of the suggested General Xenophobia Model. If we assume that repeated confrontation with cultural distant material could lead to memory structure associations that rather contribute to a rather xenophobic self-concept under awkward premises, an adequate reframing of information processing could reverse this process. Thus, if a short time intervention would have a positive impact and reduces the xenophobic self-concept, the short-time effects model of the GXM can be regarded as validated.

Regarding variables on an explicit level, outcomes revealed no significant change of explicit attitudes. This stands in line with findings of Wasonga (2005), Cochran-Smith (2003) and McDiamid and Price (1993), altogether showing that fundamental changes from short-time interventions on the concepts investigated here cannot be expected.

While there was a change on an implicit level of awareness, the accordance of explicit and implicit measures was rather weak although similar constructs had been measured (cf. Boysen & Vogel, 2008). One possibility to explain this finding is the disposition to social desired answering which can influence the results. Here especially ethical and moral issues influencing our explicit answering behavior are concerned. But although the constructs might be similar does not mean that they overlap. This also stands in line with recent research involving explicit and implicit measures (cf. Greenwald & Nosek, 2001). Here, still covert moderator variables between implicit and explicit scale measures might be the reason for a lack of direct congruence in measures (e.g., Hofmann, Gschendner & Schmitt, 2005; Lambert, Payne, Ramsey & Shaffer; 2005). Especial social desirability can be a moderator variable between implicit and explicit results, especially in aggressiveness while other dimension (e.g., anxiety) are not or rarely moderated by social desirability (Egloff & Schmukle, 2003). Taken together, such moderators can explain the divergence between implicit and explicit measures that have to be taken into account in further research here. Nevertheless, the findings here suggest that despite the lack of evidence in explicit questionnaire measures for changes toward a decreased refusal regarding cultural distant material, a positive change has occurred on the dimension of the activated self-concept with regard to cultural distant representation. This is highly relevant, because the IAT a highly predictive power, especially regarding spontaneous behavior (cf. Asendorpf, Banse & Mücke, 2002; Gawronski & Conrey, 2004). In addition various studies were able to show the link between spontaneously shown behavior and the results of the IAT (cf. Asendorpf, Banse & Mücke, 2002; Egloff & Schmukle, 2002). Results from this study suggest that the training activities as applied here have contributed to a change of the spontaneous acts performed toward strangeness. Thus, a change in assessing cultural distant material is likely that also might contribute to a change in behavior toward foreigners. If intercultural education and training becomes a part general education and will not be restricted to special subjects as Geography or Philosophy, a sustainable and positive change in attitudes and behavior might be achieved contributing to a more tolerant and peaceful society.


