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Implicit prejudice against Arab immigrants

Master's thesis

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Abstract

This thesis tests competing models on the relationship between implicit-explicit attitudes and nonverbal signs while being informed about, and decision time when being asked to support an Arab youth organization. Implicit attitudes are automatic and unintentional evaluations compared to explicit attitudes that are intentional and cognitively demanding (Greenwald & Banaji, 1995). The research uses data from an experiment already done (Gabriel & Banse, 2008). After assessing implicit and explicit attitudes, 40 male and 41 female students were informed about an Arab youth organization (voay) and asked to support the group by signing a petition list. Change in self-touching and blinking rates and decision times were coded from videotapes of the experiment. When implicit and explicit attitudes were congruent, participants had a higher increase in self-touching rate and decided faster to support the Arab organization. In addition, making the decision in public facilitated faster decision making. This is interpreted as indicating that convergent attitudes are related to comfort (increased self-touching) and attitude clarity (faster decision making). Blinking rate increased with increasing positive explicit attitudes, which is interpreted as indicating increased attention.

INTRODUCTION

> "It required years of labour and billions of dollars to gain the secret of the atom.
> It will take a still greater investment to gain the secret of man's irrational nature."
>
> - Gordon W. Allport (1954)

It has been over 5o years since Gordon E. Allport wrote the classic on The Nature of Prejudice. Today, half a century later, the topic is still highly relevant. The conceptualizations and measurements of prejudice have however changed various times since this topic was first investigated. In the past, racism was typically openly shown and directly addressed towards the stigmatized. Thus, the very first approach towards assessing prejudice was by simply *asking* people how they felt and thought about people from other social groups (Guttman, 1950; Osgood, Suci, & Tannenbaum, 1957; Thurstone, 1927). Fortunately, by the 1960ies the United Nations made an international convention on abolishing all forms of racial discrimination (Officer of the high commissioner of human rights, 1965). Prejudice became less socially acceptable. But, prejudice did not disappear (Crosby, Bromley, & Saxe, 1980; Dovidio & Gaertner, 2000; McConahay & Hough, 1976; Pettigrew & Meertens, 1995). Racism changed shape into a more modern, subtle form. Subtle racism can be jokes about people from another social group, assumptions that a specific trait belongs to a specific group ("Blacks have good rhythm"; "gays are good sewers"), "defending" ones ethnic in-group, concealed discrimination on the job market, or denying the fact that prejudice exist. Modern, subtle prejudice it is more cool, distant and indirect. To assess prejudice now, researchers had to find a new approach. Just asking people if they endorse in blatant prejudiced opinions was simply not reliable anymore. People would either not *admit* such an attitude or *endorse* such a blatant prejudiced opinion. Modern prejudice attitude scales are focused on tapping subtle prejudice, such as exaggeration of cultural differences or defence of national values.
The discovery of the automaticity of cognition started a new era in social psychology research, and research on prejudice took yet another turn. Amongst other things, it was discovered that evaluations of other social groups can be automatic, without intention and awareness (Bargh, Chen, & Burrows, 1996; Devine, 1989; Fazio, Jackson, Dunton, & Williams, 1995; Greenwald & Banaji, 1995). By the 1990-ies a new measure of prejudice was introduced: implicit measures. For example one can assess automatic association between e.g. Blacks and negative words (Greenwald, McGhee, & Schwartz, 1998). Some people have

stronger automatic associations between Blacks and negative words than others, which imply a higher degree of implicit prejudice.

In sum, the first expressions of racism were blatant - likewise the research tools, then racism became more subtle and the research tools also became more subtle. Now, the research tools are implicit, but what does implicit prejudice mean? Is having an automatically non-intentional negative evaluation of Blacks the same as being a racist? It is found that implicit prejudice affect behaviour, subtle behaviours, like speech errors, eye contact, seating distance and general friendliness in interacting with a person from a stigmatised social group, even though reported beliefs are non-prejudiced (Bessenoff & Sherman, 2000; Dovidio, Kawakami, Johnson, Johnson, & Howard, 1997; Dovidio, Kawakami & Gaertner, 2002; Fazio, et al. 1995; Fazio & Towels-Schwen, 1999; McConnell & Leibold, 2001). The current project investigates unmonitored behaviours in relation to self-reported and implicit attitudes. A well established line of research argues for a double dissociation relation between attitudes and behaviour, where implicit attitudes predict spontaneous, uncontrollable behaviours, and explicit attitudes predict deliberate thought through behaviours. But implicit prejudice and behaviour could be related in other ways as well. An alternative suggestion is that implicit and explicit attitudes may both uniquely direct behaviour, or that implicit and explicit attitudes interact in directing behaviour (Perugini, 2005). The current project investigates these competing models in relation to prejudice against Arab immigrants. Arab immigrants is an interesting attitude object namely because, despite the vast literature on implicit prejudice and the fact that Arabs have been object to prejudice traditionally in European history and especially the years after 9/11 (Inayat, 2002) prejudice against Arabs have been largely overlooked in research on implicit prejudice.

This project uses data from an experiment by Ute Gabriel and Rainer Banse (2008) that investigated personal and situational variables on helping behaviour towards Arab immigrants, which I worked as a student assistant on. My job in the experiment consisted of assisting in the development of an explicit cognitive and affective attitude scale, programming the “implicit association test” ([IAT] Greenwald et al., 1998), and being the experimenter in the execution of the experiment. The experiment included that the participants were asked to support an Arab youth group after they believed the experiment was over. They were video taped when they received this plea for help. The current project is post hoc testing on that experiment. In contrast to Gabriel and Banse (2008) who focused on the amount of help

provided, I will focus on implicit responses to the plea for help. From the video tapes I assessed implicit responses such as blinking and self-touching rate, and decision time in deciding to sign a petition list for the Arab youth organization. These indicators were chosen because they are relatively easy to rate. In addition, blinking and self-touching have been used as indicators in other studies on implicit prejudice (Dovidio et al., 1997; McConnell & Leibold, 2001; Olson & Fazio, 2007). For the analyses I use the already prepared data of implicit and explicit attitudes.

The aim of the project is to examine if blinking, self-touching and decision time are related to implicit attitudes, explicit attitudes, or the interaction between implicit and explicit attitudes. This study is important because the idea that implicit and explicit attitudes may interact or both be related to behaviour have hardly been tested before. In addition, this contribution explores what blinking and self-touching rate and decision time may indicate in relation to prejudice.

First in this paper an account for the relationship between implicit and explicit attitudes will be given. Then, a review of literature on predicting behaviour by implicit and explicit prejudice is given. There is paid special attention to different models on the relationship between implicit-explicit attitudes and behaviour. An empirical section consisting of the experiment mentioned above seeks to test these competing models. In the last section of this thesis there will be a discussion of the results.

Implicit vs. explicit attitudes

Traditionally attitudes are assumed to operate in a conscious mode. Recent research has however shown that attitudes can be automatically activated and guide behaviour directly outside conscious awareness (Bargh et al., 1996: Chen & Bargh, 1999; Dovidio et al., 1997; Fazio & Dunton, 1997; Greenwald & Banaji, 1995). These automatically activated evaluations are called *implicit attitudes* (Greenwald & Banaji, 1995). The concept of attitudes is now twofold - consisting of (a) the traditional view of attitudes: attitudes as controlled, intentional, effortful and demanding of resources, which are called explicit attitudes; and (b) implicit attitudes, which are held to be unintentional and effortless (Bargh et al., 1996; e.g. Greenwald & Banaji, 1995; Shiffrin & Schneider, 1977; Wilson, Lindsey, & Schooler, 2000). This step forward in attitude research triggered a wave of studies on implicit attitudes. There are, however, discussions on what implicit attitudes represent. Especially, there is

disagreement on whether implicit and explicit attitudes are two different constructs or whether they are different indicators of the same construct. One approach proposes that we cannot differentiate between two different attitude constructs, but rather between implicit and explicit attitude *measurements* (Fazio & Olson, 2003). Another approach proposes that implicit and explicit attitude measures in fact do tap different attitude structures (Devine, 1989; Gawronski & Bodenhausen, 2006; Karpinski & Hilton, 2001; Strack & Deutsch, 2004; Wilson et al., 2000). These approaches are reviewed next to elaborate how implicit attitudes are conceptualized and to present the position of this project.

The same construct approach

This approach distinguishes between *implicitly* or *explicitly measured* attitudes, not between attitude constructs. According to this approach there is only one underlying construct (see e.g. Fazio & Olson, 2003). Implicit and explicit attitudes diverge in how they are measured, and some argue that it is more appropriate to view the measures as implicit or explicit, not the attitude (Fazio & Olson, 2003). Attitudes are explicitly measured by traditional attitudes-scales in questionnaires or interviews, whereas attitudes are most commonly implicitly assessed by measures based on reaction times in response compatibility tasks. There are different methods used to implicitly assess attitudes, such as affective priming (Fazio, Sanbonmatsu, Powell, & Kardes, 1986), the implicit association test ([IAT] Greenwald et al., 1998), the Go/no go task ([GNAT] Nosek & Banaji, 2001), or the affect misattribution procedure ([AMP] Payne, Cheng, Govorun, & Stewart, 2005). Affective priming introduced by Fazio et al. (1986) implicitly assesses attitudes as the extent to which the presentation of an attitude object automatically activates an associated evaluation from memory. Fazio et al., (1995) used this method to examine racial attitudes. In the critical part of their study, participants were asked to indicate the connotation (good or bad) of an evaluative adjective (e.g. “attractive” or “disgusting”) as quickly as possible after being primed with photos of Black or White persons. They found that Black faces facilitated responding to negative adjectives, relative to White faces. This result suggests that negativity was automatically activated by Black primes (Fazio & Olson, 2003).

One of the most popular tools to implicitly assess attitudes is the IAT developed by Greenwald et al. (1998). The IAT assesses the strength of an association between a target concept and an attribute dimension by considering the latency with which participants can employ two response keys when each has been assigned a dual meaning. It relies on the assumption that if a target concept (e.g. Blacks) and an attribute dimension (e.g. negative) are

highly associated, the task will be easier and quicker when they share the same response key than when they have different response keys. The GNAT (Nosek & Banaji, 2001) is similar to the IAT, but without the need of contrasting target categories. In the IAT attitudes towards a category are assessed relative to another category (e.g. Blacks vs. Whites). In the GNAT attitudes towards e.g. Blacks can be evaluated in the context of a second category (Whites), a superordinate category (social groups), a generic category (human beings), or with no context. The AMP (Payne et al., 2005) does not use response latency, but evaluations of ambiguous items. An evaluation of ambiguous items, such as a Chinese pictograph, is manipulated by priming the participants with pictures of an attitude object. People misattribute the affective reaction from the prime picture to the target pictographs. As a consequence, participants asked to rate the pleasantness of the pictograph tend to rate it as more pleasant following a pleasant prime picture compare to an unpleasant prime picture. The measure of interest is the pictograph's rated pleasantness.

In sum, there are several ways to implicitly assess attitudes. They all have in common that they are intended to gauge relatively automatic mental associations, which are uncontrolled, with lack of intention and efficient in processing, and they provide estimates of individuals' attitudes without having to directly ask them (Bargh et al., 1996; Fazio & Olson, 2003; Hofmann, Gawronski, Gschwender, Le, & Schmitt, 2005). Explicit measurement of attitudes on the other hand, typically relies on self-report. There are several methods to explicitly measure attitudes, using e.g. Likert-scales, Thurstone scales, semantic differential scales, or feeling thermometers. Likert scale methods are executed by presenting several attitude statements to the participant and the respondent answers on a scale ranging from "strongly agree" to "strongly disagree" (Likert, 1932). The total score of answers to all statements in the scale is an indicator of the individual's attitude. Thurstone scales (Thurstone, 1928) contain numerous attitude statements and respondents place a check mark besides statements with which they agree. These scales do not measure to the extent of agreement or disagreement, but which statements they agree with. In the semantic differential (Osgood, Suci & Tanenbaum, 1957) respondents are asked to rate an object by checking a category on several bipolar scales (bad-good, wise-foolish, pleasant-unpleasant etc.). Respondents check further along the scale to the extent that the object is described by either of the two adjectives. On a feeling thermometer, participants are presented with several attitude targets and asked to rate their feelings toward each target from very cold and unfavourable to very warm and favourable.

Correlations between attitudes implicitly measured with the IAT and attitudes explicitly measured with self-report, are substantial but low (Hofmann et al., 2005). According to the same construct approach this low correlation is due to the difference in implicitly and explicitly measuring attitudes. Empirical evidence for this claim is presented by e.g. Payne, Burkley and Stokes (2008), who showed that when the structural fit between measures of implicit and explicit attitudes increased, the implicit-explicit correlation also increased. Structural fit is methodological similarity or similarity in task demands. E.g. Payne et al. (2008) used a version of the AMP (Payne et al., 2005) where Black or White faces served as primes for the Chinese pictographs. Structural fit was increased by asking the participant to rate the primes instead of the pictographs. But, as Payne et al. point out, higher correlations do not necessarily mean that implicit and explicit attitudes are the same construct: even when equated in structure, explicit and implicit tests do not agree perfectly.

Another explanation to the low correlation within the same construct approach is reflected in Fasio's MODE model (Fazio, 1990; Fazio & Olson, 2003). According to the MODE-model attitudes are applied through spontaneous or deliberate processes. The letters "MODE" stand for Motivation and Opportunity as DEterminants of whether attitude-to-behaviour process is spontaneous or deliberate in nature. Fazio and Olson (2003) postulate that explicit and implicit measures should be highly correlated unless people are motivated and able to control their responses on the explicit measure. If either motivation or opportunity is low when the explicit response is being considered, then the explicit measure should correlate with the implicit measure (Fazio & Olson, 2003). Motivational aspects include (1) self-presentation concern and (2) internal motivation to control prejudiced reactions (Plant & Devine, 1998; see also Dunton & Fazio, 1997).

Self-presentation concern (Crosby et al., 1980; Dovidio & Fazio, 1992; Plant & Devine, 1998) is altering responses on a questionnaire for social purposes. I.e. concealing your explicit attitude because you don't want other to know, and/or believing that it is not a socially acceptable attitude to have. The more sensitive domain, the greater the likelihood that self-presentation concerns will be evoked (Fazio & Olson, 2003). Hence it is a normative motivation to respond without prejudice. There is a fair deal of empirical support for self-presentation concern as moderator between implicit and explicit attitudes. E.g. when self-presentation concerns were high (using a bogus pipeline method) the implicit-explicit

correspondence increased (Nier, 2005). But, Rohner and Björklund (2006) failed to find stronger implicit-explicit correlation when self-presentation concerns were low. They asked participants to make evaluate ratings of pictures of homosexual and heterosexual couples. Self-presentation was manipulated by either telling the participants that the study concerned attitudes regarding sexual orientation (socially sensitive) or attitudes regarding age (less sensitive). However, Nosek (2005) examined the implicit-explicit relationship on more than 50 attitude topics. He found that greater self-presentation concerns were associated with weaker implicit-explicit correspondence. In addition, Nosek and Smyth (2007) analyzed the data from the study by Nosek (2005). These analyses showed that self-presentation concern accounted for a part of the variation in implicit-explicit correlations. But for some domains the sensitivity of the topic was not reflected in the implicit-explicit correspondence. For example, attitudes towards pants versus skirts elicited weak self-presentation concerns but also showed weak implicit-explicit correspondence (.15). And, attitudes toward African American versus European American elicited strong self-presentation concerns but showed relatively strong implicit-explicit correspondence (.55). In sum, self-presentation is an interpersonal factor that moderates the strength of implicit-explicit correlations, but it might not be the main moderator (Nosek & Smyth, 2007).

Internal motivation to respond without prejudice results from internalized and personal important non-prejudiced standards (Plant & Devine, 1998). People who are internally motivated to respond without prejudice are concerned with appearing prejudiced to *oneself* (in addition to maybe being concerned with acting prejudiced to others) (Plant & Devine, 1998). The internal motivation to control prejudiced reactions is a well established moderator between implicit and explicit attitudes. Individuals with a low internal motivation to control prejudiced reactions show corresponding implicit and explicit attitudes, while individuals with a high internal motivation to control prejudiced reactions do not (e.g. Akrami & Ekehammar, 2005; Gabriel et al., 2007; Plant & Devine, 1998). The difference between self-presentation concerns and internal motivation in how they are related to implicit prejudice is illustrated by Hausmann and Ryan (2004) who found that persons with high internal motivation to control prejudiced reactions showed less implicit prejudice, compared to persons with high external motivation.

In conclusion, there is only moderate evidence supporting the suggestion that implicit and explicit attitudes are only different in the way they are measured. There is a good deal of support for the suggestion that the motivation to control prejudiced reactions moderates the relationship between implicitly and explicitly measured attitudes. But, that does not necessarily support the assumption that implicit and explicit attitudes represent the same construct. The next approach is also concerned with motivation as a moderating variable, but sees the attitudes constructs as distinctive – not just the measurements.

The two construct approach

The two construct approach (Devine, 1989) sees implicit and explicit attitudes as different constructs. Implicit attitudes, according to this approach, are internalized *cultural stereotypes* that are automatically activated on mere exposure to the social category. Devine (1989) proposed that high and low prejudiced people may be equally knowledgeable about cultural stereotypes about minority groups and similarly activate these stereotypes automatically with real or symbolic presence of a member of that group. Explicit attitudes are the personal beliefs that may or may not be congruent with the stereotype (Devine, 1989). Devine argued (1989) that those who have renounced prejudice may continue to experience "prejudice-like" thoughts and feelings. Thus, even though stereotypes do not include evaluation, Devine (1989; 2005) argue that stereotype-based knowledge structures may result in prejudice-like thoughts and feelings are automatically activated in the presence of a member of the stereotyped group. Devine (1989) uses the term "prejudice-like" because the automatically activated stereotypic thoughts or negative feelings are not intentional. These responses are compared to "bad habits" that are results from a lifetime of socialization experiences (Devine, 2005; Devine, Plant, & Buswelll, 2000). Breaking these habits include the inhibition of the automatically activated negative response and the conscious intentional activation of non-prejudiced beliefs (Devine, Monteith, Zuerink, & Elliot, 1991). Non-prejudiced beliefs and prejudiced thoughts and feelings may then coexist within the same individual. This concept is the cornerstone of the aversive and modern racism frameworks (Dovidio & Gaertner, 2004; McConahay, 1983). These frameworks concern the majority's implicit attitudes being dissociated from their explicit attitudes towards minority groups. Members of majority groups (such as Whites in the USA) may consciously, explicitly and sincerely support egalitarian principles, and believe that they are non-prejudiced, but still harbour negative beliefs or feelings about minority groups (such as Blacks) on an implicit, non-conscious, automatic level.

According to Devine (1989) individuals implicit prejudice reflect a cultural bias towards minorities. An implicit bias towards out groups is found in several studies (Dovidio et al, 1997; Dovidio & Gaertner, 1993; Lepore & Brown, 1997). For example, Dovidio et al. (1997) found clear implicit racial attitudes among the White participants towards Blacks. Thus, there seem to be a systematic implicit racial bias towards minorities.

Karpinski and Hilton (2001) argue for an "environmental association model" where attitudes measured by the IAT merely reflect environmental associations, not the individual's endorsement regarding the attitude object. They found no correlation between implicit and explicit attitudes, and report that this supports the view that implicit attitude are independent from explicit attitudes. (But, as seen in the same construct model (Payne et al, 2008), a low correlation may be exaggerated due to the structural difference in how implicit and explicit attitudes are measured.) Karpinski and Hilton (2001) also found that when participants were exposed to new associations between attitude objects, the implicit attitudes were affected, while the explicit attitudes remained the same, supporting the notion that mere exposure affects implicit attitudes. From this point of view the IAT does not even measure attitudes because although it measures trace of past experience, it does not mediate evaluative thought, feeling, or action. This idea is however in stark disagreement with previous findings. Several other studies have shown that low- and high prejudiced persons do not have the same level of stereotypic activation (Fazio et al., 1995; Gordijn, Koomen, & Stapel, 2001; Lepore & Brown, 1997; Wittenbrink, Judd, & Park, 1997). E. g. Lepore and Brown (1997) found that high explicitly prejudiced persons also displayed more prejudice on the implicit measure, relative to low prejudiced persons. A systematic implicit racial bias was present, but the strength varied with the explicit attitude. Thus, implicit attitudes do not seem to reflect merely environmental associations (as noted by Karpinski & Hilton, 2001), but also some personal variance.

In a revision of her model, Devine and colleagues (Devine, Plant, Amodio, Harmon-Jones, & Vance, 2002; Plant & Devine, 1998) propose that individuals do not have the same automatic activation of stereotypes. Rather, the automatic activation of stereotypes or negative evaluations differs between individuals as a function of internal and external motivation to respond without prejudice. External motivation resembles self-presentation concerns, in that it is a normative motivation. Those with high internal motivation usually display less implicit

prejudice (Amodio, Devine, & Harmon-Jones, 2008, Plant & Devine, 2002). From seeing implicit and explicit attitudes as being completely dissociated (Devine, 1989; Karpinski & Hilton, 2001) the two construct approach now view implicit and explicit attitudes still as different constructs, but related. Recently, several researchers have proposed different attitude models that account for the duality in evaluation (Gawronski & Bodenhausen, 2006; Strack & Deutsch, 2004; Wilson et al., 2000). These belong under the two construct approach, because they see implicit and explicit attitudes as distinct construct. However, they also agree that the two constructs also are related.

Wilson et al. (2000) proposes a dual-attitude model (DAM) which concerns that when attitudes change, the old attitude is not replaced with the new one, but rather remains as an implicit attitude. Dual attitudes, which are different evaluations of the same attitude object, consist of an automatic, implicit attitude and an explicit attitude. When dual attitudes exist, the implicit attitude is activated automatically, whereas the explicit one requires more capacity and motivation to retrieve from memory, which is in line with Fazio & Olson (2003) and Devine (1989). According to Wilson et al. (2000) dual attitudes are distinct from ambivalence. Rather than experiencing a subjective state of conflict, people with dual attitudes react on the attitude that is most accessible. Wilson et al. (2000) outline four different kinds of dual attitudes. (a) Repression is when an attitude is kept outside conscious awareness because it is anxiety-provoking. A dual attitude will result when an explicit attitude towards the same attitude object differs from the repressed attitude. The individual is not aware of the implicit/repressed attitude, but have the motivation and capacity to override the implicit attitude with the explicit. In the case of (b) independent systems, implicit and explicit attitudes independently develop evaluation. The individual is not aware of the implicit attitude, and does not need motivation or capacity to override it with the explicit attitude. And importantly, implicit attitudes influence implicit responses and explicit attitude influence explicit responses, in what Greenwald and Banaji (1995) refer to as “dissociation”, but Wilson et al. (2000) call “independence” to not confuse the idea with other concepts associated with dissociation. (c) Motivated overriding is when an automatically activated attitude is viewed as illegitimate or unwanted, and is overridden with a different attitude. Here the individual is aware of the implicit attitude, and is motivated to override it with a different attitude. (d) Automatic overriding is when the process of overriding is automatic in its’ self. When people have the capacity and motivation to retrieve the explicit attitude, the explicit attitude “short-

circuits" the implicit attitude such that people do not experience the implicit attitude consciously.

Another dual attitude theory is put forward by Strack and Deutsch (2004). Strack and Deutsch (2004) proposed a theory on reflective and impulsive processes as determinants of social behaviour (RIM) that also embraces the topic of implicit vs. explicit attitudes. According to this theory, implicit attitude processes are located in the impulsive system of social behaviour. Implicit measures tap into people's associative structures. Explicit attitude processes are located in the reflective system, and explicit measures tap into people's knowledge or beliefs. This theoretical position is different from the DAM (Wilson et al., 2000) proposed earlier in respect to how implicit and explicit attitudes operate: While the DAM assumes a sequential mode of operation, Strack and Deutsch (2004) suggest that the two systems operate in parallel and but also interact with one another. In addition, the implicit attitude in the RIM is not an "old" attitude, but a prevailing attitude in line with the explicit attitude.

Building on i.a. the RIM, Gawronski and Bodenhausen (2006) outlined a theory on the distinction between associative and propositional processes. Gawronski and Bodenhausen (2006) hold that implicit and explicit attitudes differ in terms of their underlying principles of information processing; either an associative or a propositional process. Implicit attitudes reflect affective reactions that depend on which associations are activated spontaneously in memory. Explicit attitudes reflect evaluative judgements that may or may not be based on spontaneous affective reactions. Explicit and implicit attitudes will be higher correlated when the affective reaction serves as a basis for the evaluative judgement. If however, information retrieved by the evaluative judgement is in disagreement with the affective reaction, implicit and explicit attitudes will be less correlated (Gawronski & Bodenhausen, 2006). For example, explicit attitudes towards homosexuals may be based on implicit reactions to homosexuals, unless additional information leads to a rejection of one's affective reaction as a valid base for an explicit attitude (e.g. when spontaneous negative reactions to homosexuals collide with positive beliefs about gay rights). Drawing on cognitive dissonance theory (Festinger, 1957), Gawronski and Bodenhaunsen (2006) also suggest that if the evaluation implied by an affective reaction is inconsistent with other relevant beliefs, people will aim at achieving consistency to avoid uncomfortable feelings of dissonance. This is an important difference from the DAM by Wilson et al. (2000). According to Wilson et al. (2000) dual attitudes will not lead to a feeling of conflict, which is in contrast to Strack and Deutsch (2004), and

Gawronski and Bodenhausen (2006), who suggest that a divergence between implicit and explicit attitudes could lead to feelings of dissonance.

These theories share the idea that implicit and explicit processes differ in terms of intentionality, effort, and awareness. Even though the processes in which implicit and explicit attitudes operate are different, they seem to be related. Nosek and Smyth (2007) found through multitrait-multimethod and comparative structural modelling analyses that a two-construct model fits better than a one-construct model for over 50 different attitude domains, including e.g. attitudes towards social groups, food, clothes, abortion, political candidates, religion, music etc. Even when correlations between implicit and explicit attitude factors were strong, collapsing their indicators to a single attitude factor resulted in a relatively inferior fit compared to a two-factor fit. Furthermore, Cunningham, Preacher, and Banaji (2001) found that multiple measures of implicit and explicit attitudes towards black Americans were robustly correlated (r = .45). However, the different measures also tapped unique sources of variance. In addition, Cunningham, Nezlek and Banaji (2004) reported that implicit and explicit prejudices are discrete systems that are also systematically related. Factor analysis indicated that implicit and explicit prejudices could not be modelled as a single factor, even though some parts of explicit prejudice overlap implicit prejudice. Although being closely related implicit and explicit attitudes do not seem to represent one single construct or to be dissociated.

In sum, two different models suggest different relations between implicit and explicit attitudes. According to the same construct approach it is the measurement techniques that are either implicit or explicit, not the attitude construct. According to the traditional two construct model, implicit and explicit attitudes are different attitude constructs, in which implicit attitudes reflect (knowledge of) cultural stereotypes and explicit attitudes reflect personal beliefs. According to the revised two-construct-model and the dual attitude models, implicit attitudes are distinct but related constructs. All models agree that the degree of concordance between implicit(ly measured) and explicit(ly measured) attitudes vary depending on inter- and intrapersonal variables, like the motivation to control prejudiced reactions and the cognitive capacity to report explicit attitudes (Fazio & Olson, 2003; Fazio, 1990; Plant & Devine, 1998). Thus these three approaches also have something in common. This project relies on the assumption that the IAT assesses implicit attitudes, and that implicit and explicit attitudes operate through different processes, but are related.

Assumptions about what implicit attitudes represent, and how they are related to explicit attitudes is reflected in theories on how behaviour is related to attitudes. According to *the double dissociation model*, explicit attitudes are related to intentional behaviour and implicit attitudes are related to unintentional behaviour. This model has theoretical support in the DAM (Wilson et al., 2000) that people may have two different attitudes of the same object, ain which both have different predictive validity. *The additive model* adds that implicit attitudes, explicit attitudes or both implicit and explicit attitudes may be related to both intentional and unintentional behaviours. This model has theoretical support in the same construct model in that the implicitly and explicitly measures of attitudes may both be related to a certain behaviour. *The multiplicative model* is theoretically supported by the RIM (Strack & Deutsch, 2004) which hold that implicit and explicit attitudes can work synergistically and facilitate behaviour, or antagonistic which impedes behaviour. Thus according to this model, implicit and explicit attitudes may interact in predicting behaviour. These three models are elaborated next.

Predicting real life behaviour by implicit (and explicit) attitudes

The double dissociation model

A number of studies have investigated the relationship between implicit attitudes and behaviour. Many researchers have argued in favour of a double dissociation model, where explicit attitudes predict intentional, controlled behaviour, and implicit attitudes predict uncontrollable responses or responses that people do not view as an expression of their attitude and thus do not try to control (Bessenoff & Sherman, 2000; Dovidio et al., 1997; Dovidio et al., 2002; Fazio, et al., 1995; Fazio & Towels-Schwen, 1999; Friese, Wänke & Plessner, 2006; Greenwald & Banaji, 1995; McConnell & Leibold, 2001; Wilson et al., 2000). With regards to prejudice, subtle discriminatory behaviours (implicit responses) have been of interest. That is, behaviours which indicate an evaluation of the social group, that are either hard to control or that is not regarded as an expression of ones attitude. Fazio et al. (1995) showed in one study that negative implicit attitudes towards Blacks predicted negative interactions with a Black vs. a White experimenter, as judged by the experimenter by indicators such as smiling, eye contact, spatial distance, and body language. Moreover, Dovidio and colleagues (1997) found that while self-reported, explicit racial attitudes primarily predicted the relative evaluations of Black and White interaction partners, implicit

attitudes predicted differences in the nonverbal behaviours of blinking and visual contact. In another study, McConnell and Leibold (2001) showed that negative attitudes towards Black, assessed by the IAT, was related to subtle discriminatory behaviour such as speaking time, smiling, speech errors, speech hesitations, fidgeting, and social comments in a social interaction with a Black relative to a White experimenter. In addition, Dovidio et al. (2002) found that explicit attitudes predicted bias in Whites verbal behaviour to Blacks relative to Whites, and implicit measures predicted Whites' nonverbal friendliness in interacting with Blacks. At last, implicit attitudes, but not explicit attitudes predicted how far participants chose to sit from an obese woman (Bessenoff & Sherman, 2000). These studies suggest that implicit attitudes are manifest in unintentional behaviours that are difficult to control. Some of the behaviours used as indicators mentioned above, such as spatial distance and speaking time, are easier to control. But, people may be unaware of how these behaviours are affected by their implicit attitudes. Therefore, they may not try to control these behaviours irrespective of their *motivation* and *ability* to do so (Gawronski & Bodenhausen, 2006). Olson and Fazio (2003) refer to this phenomenon as "behavioural leakages" because it states that implicit attitudes are thought to appear in nonverbal channels, as though our bodies drip attitudes like a sink drips water. The notion "behavioural leakage" is borrowed from Ekman and Friesen (1969) and first used in relation to implicit attitudes by Fazio et al. (1995). The term double dissociation model is a broader concept compared to behavioural leakages, in that leakage namely refers to how negative implicit attitudes towards a social group directs negative implicit behaviour. The double dissociation model is, on the other hand, directed to all attitude domains, and is not limited to negative implicit attitudes. While behavioural leakage includes only "leakage" of implicit attitudes, the double dissociation model incorporates explanatory models of both implicit and explicit attitudes.

The additive and the multiplicative model

In addition to the double dissociation model, Perugini (2005) presented two other predictive models of implicit and explicit attitudes; the additive model and the multiplicative model. According to the additive model both explicit and implicit attitudes can give unique contributions to the prediction of behaviours. While the double dissociation model argues that implicit attitudes are related to one kind of behaviour and explicit attitudes to another kind of behaviour, the additive model argues that both implicit and explicit may be related to the same type of behaviour. This model has theoretical support in the same construct model, which sees the implicit-explicit distinction in relation to the *measures*, not attitude constructs.

Since both implicit and explicit measures of attitudes tap the same construct, both measures could predict behaviour and both measures provide distinctive prediction of behaviour. An extension of the additive model is the suggestion that implicit and explicit attitudes might *interact* in predicting behaviour. Perugini (2005) calls this possibility the multiplicative model. The multiplicative model is supported by the RIM by Strack and Deutsch (2004) presented earlier. According to the RIM (Strack & Deutsch, 2004) the reflective and impulsive systems elicit behaviour through different processes. In the impulsive system, behaviour is elicited through the spread of activation to behavioural schema. In the reflective system, behaviour is elicited from reasoning that leads to a decision based on intellect about the feasibility and desirability of a particular action. Both processes may jointly activate behavioural schema that control overt behaviour. When the impulsive and reflective system works together in the same direction – that is, to activate the same behavioural schema – the behaviour is facilitated. The cognitive capacity to control the execution of the behaviour will be decreased and the execution of the behaviour may be accompanied by a feeling of fluency, which has a positive quality. But, the two systems can also compete if they activate incompatible schema, or if the reflective system inhibits the execution of a behaviour that is impulsively activated. Such antagonistic activation may be accompanied by a feeling of conflict (Strack & Deutsch, 2004). Gawronski and Bodenhausen (2006) support this notion and propose that affective and evaluative evaluations may lead to cognitive dissonance (Festinger, 1957). The unique contribution of the multiplicative model is that it proposes that implicit and explicit attitudes may work together in directing behaviour. Theories such as Fazios MODE model (1990) and Wilson et al. (2000) model of dual attitudes have an either/or perspective, and focus on when and how explicit *or* implicit attitudes are more likely to direct behaviour. Neither has looked at the idea that they may interact in directing behaviour, except the RIM by Strack and Deutsch (2004) (Perugini, 2005). To conclude, the additive model includes that both implicit and explicit attitudes may direct behaviour, while the multiplicative model suggests that when both implicit and explicit attitudes are convergent, their joint directive function on behaviour is strongest (Perugini, 2005).

Of the three predictive models, the double dissociation model has been tested far more often (Perugini, 2005). But, that does not mean that e.g. the multiplicative model is any less likely to have predictive power. As Perugini (2005) pointed out; other studies have simply not tested the multiplicative idea. Even though support has been found that implicit attitudes predict

spontaneous or less deliberate behaviour, it may be that there existed an interaction effect of implicit-explicit which was not explored.

Perugini (2005) tested both the double dissociation model, the additive model, and the multiplicative model in two experiments; the first looked at attitudes towards smoking and the second at preferences for fruits versus snacks. In the first study he found that the prediction of being a smoker or not is more effective when implicit and explicit attitudes are in the same direction, supporting the multiplicative model. The second study supported the double dissociation pattern. Implicit attitudes towards fruits versus snacks predicted spontaneous behaviour (choosing fruits over snacks when offered both), but explicit attitudes predicted deliberate behaviour (self-reported consumption of fruits and snacks). Perugini (2005) calls attention to that whenever possible, all predictive models should be compared for their ability to predict the outcomes of specific behaviours. The present research takes up the notion and applies it to the domain of prejudice. More specifically, the present study investigates how behavioural responses that people do not view as an expression of their attitude and thus do not try to control are related to implicit and explicit attitudes towards a social group. This is an extension of Peruginis (2005) findings. The objective of the current study is to explore these models in relation to attitudes towards Arabs.

Research overview and hypotheses

The present study uses the experimental paradigm employed by Gabriel, Banse and Hug (2007). This paradigm tests the interplay between personal and situational variables on helping behaviour towards a social group. Personal variables include implicit and explicit attitudes, and motivation to control prejudiced reactions. The situational variable is a private versus a public scene for helping behaviour. A unique feature of the paradigm is that the behavioural measure is assessed in an ecological valid way. Participants are asked to support a group representing the social category when they believe the experiment is over. Help can be given in different ways; by signing a petition, giving money, and/or volunteer working for the group. In contrast to Gabriel et al. (2007) and Gabriel and Banse (2008) who focused on the amount of help provided, I will focus on implicit responses. More specifically, I will investigate the relationship between implicit and explicit attitudes and three implicit responses assessed during the plea for support. These responses are self-touching rate and blinking rate as nonverbal behaviours. In addition, the time it takes for the participants to agree to sign the petition is also used as an implicit response.

The first implicit response is self-touching rate. Self-touching is rubbing, scratching, caressing or grooming the body or its' adornments, and is not usually intended to communicate and is executed with little or no awareness (Harrigan, 1985). In the current research self-touching rate is assessed in a baseline segment (when the participants receive the incentive for participating, and are "debriefed") and in a socially sensitive segment where the participants are informed about an Arab youth organization ("Voice of Arab Youth", voay). The change in self-touching rate from the baseline to the more sensitive segment is used as an implicit response. More specifically it is the extent of increase in self-touching rate that is interesting There is not a lot of research on self-touching, and there is thus uncertainty around what self-touching indicates. But according to some researchers self-touching is related to stress and negative affect (Ekman & Friesen, 1974; Harrigan, 1985; Olson & Fazio, 2007).

The second implicit cue is blinking rate. Blinking rate is assessed in the same way as self-touching rate as the amount of change from the baseline segment to the sensitive segment. The extent of increase in blinking rate is interesting since increase in blinking rate is considered to be a sign of negative affect, stress or arousal (Doering, 1957; Harrigan & O'Connell, 1996; Harris, Thackray, & Schoenberger, 1966; Knapp & Hall, 2006).
Both blinking rate and self-touching rate have the advantage of being unobtrusive measures, in that participants are not aware of the amount of self-touching and blinking they engage in (Hall, Murphy, & Mast, 2007; Dovodio & Ellyson, 1985) and thus are not aware of that these cues might be related to their attitudes.

According to the three different predictive models, there could be three different relationships between implicit-explicit attitudes and these nonverbal behaviours. According to the double dissociation model, implicit attitudes are related to change in blinking and self-touching rate. Assuming that implicit attitudes are activated when participants are informed about the Arab youth organisation, we can from this perspective expect that if the implicitly activated attitude is negative, blinking rate and self-touching rate will increase as a leakage of negativity. According to the additive model either implicit or explicit, or both implicit and explicit attitudes are related to the change in blinking rate and self-touching rate. According to the multiplicative model, blinking rate and self-touching rate should be related to the interaction between implicit and explicit attitudes (Perugini, 2005). Implicit attitudes activated when being informed about e.g. an Arab youth organisation may be in convergence or divergence

with the explicit attitude. When there is convergence between implicit and explicit attitudes, this evaluation of the Arab group is clear. But, when there is divergence between the attitudes, a feeling of conflict may arise (Gawronski & Bodenhausen, 2006; Strack & Deutsch, 2004). Olson and Fazio (2007) found that divergent evaluations of Blacks affect nonverbal behaviours, such as self-touching. When the participants evaluated a specific Black person in divergence with their implicit attitudes, self-touching increased while giving the specific evaluation. Thus, they found that divergence between a specific evaluation and a general implicit attitude was related to self-touching. it may be that divergence between general implicit and general explicit attitudes are related to self-touching and blinking rate as well. It is therefore expected from the perspective of the multiplicative model, that divergence between implicit and explicit attitudes is related to increase in blinking rate and self-touching rate as they indicate negative affect (Doering, 1957; Ekman & Friesen, 1974; Harrigan, 1985; Harrigan & O'Connell, 1996; Knapp & Hall, 2006; Olson & Fazio, 2007; Harris, Thackray, & Schoenberger, 1966). Thus similarly to the "leakage hypothesis" it is assumed that the body will leak negative affect, but in contrast to the double dissociation model, negative affect is assumed to arise from divergence between implicit and explicit attitudes, not from negative implicit attitudes per se.

The third implicit response is the time it takes participants to sign the petition list. Decision time is hypothesised to be a non obtrusive cue because the participants should not be aware of how their attitudes affect their decision time, or that their decision time is assessed. Most likely, their attention is on the explicit behaviour - to sign, whether or not to give money and so on. Therefore there is no reason to believe that the participants control decision time in any way, and hence serves as an implicit response. Decision time has been associated with attitude strength (Postman & Zimmerman, 1945). Postman and Zimmerman (1945) timed how long individuals used to agree or disagree with several attitude statements, and found that the decision times were related to how strongly the individuals felt about the attitude statements. Decision time in reporting intentions may also be predictive of behaviour. Bassili (1993) showed in a study on voting behaviour, that response latency is a measure of the likelihood that respondents in a survey will cast the vote expressed in their voting intentions. Longer response latency decreases the odds that the intention matches the cast ballot. Shorter response latency predicts consistency between the intention to vote and actually voting. Certainty of the decision thus seems to be associated with decision time.

Again, there are three different possible relationships between attitudes and positive decision time (Perugini, 2005). From the perspective of the double dissociation model, implicit responses and behaviours are related to implicit attitudes. It is assumed that decision time is an implicit response because there is no reason to believe that the participants monitor or explicitly control their decision time in any way. Assuming that how long time one uses to make the decision to support *voay* is an unintentional response, the time it takes to decide should be related to implicit attitudes. More specifically, from the double dissociation model, negative implicit attitudes should be related to longer decision time, because of implicit negativity towards the decision. From the perspective of the additive model, it is expected in the same way as with blinking and self-touching, that both the explicit and implicit measures are distinctively related to positive decision time. Both are measures of the same attitude construct, and thus could be related to the response. From the perspective of the multiplicative model, divergence between implicit and explicit attitudes could be related to uncertainty and consequently longer decision time, because the explicit attitude may inhibit the implicitly activated schemata of signing the petition (Strack & Deutsch, 2004). Convergence between implicit and explicit attitudes, on the other hand, leads to shorter decision time because the attitudes work synergistically which facilitates the behaviour and decreases cognitive capacity needed to execute the behaviour (Strack & Deutsch, 2004).

Inter- and intra personal variables may moderate the relationship between implicit-explicit attitudes and behaviour. For example, Friese, Hofmann, and Wänke (in press) investigated the double dissociation model in relation to, among other things, choosing chocolates or fruits when cognitive capacity is manipulated. Cognitive capacity was manipulated by having half of the participants remembering a single digit number (high cognitive capacity) and the other half remembering an eight digit number (low cognitive capacity) while choosing chocolates and fruits. Friese et al. (in press) also measured *how long time* participants used to make the decision. They failed however to find a difference in decision time between low-capacity condition and the high-capacity condition. That is, the personal variable of cognitive capacity did not influence decision time. It might however be that situational variables influence decision time. The experimental situation in the current research is manipulated by placing half of the participants in a private setting and the other half in a public setting in the plea-for-help part of the experiment. The private setting includes that the participants are left alone when deciding to support the organisation. The public setting includes that the participant makes the decision in the presence of the experimenter. This manipulation can affect

prejudice-relevant behaviour by making social norms salient (Gabriel et al., 2007). Gabriel et al. (2007) found that participants were more supportive in a public than in the private setting. As an extension to this finding it is expected in the current research that participants in the public setting, where norms are more salient, will use shorter amount of time to decide to sign the petition. One could expect from the MODE model (Fazio, 1990) that explicit attitudes will be more predictive in the public setting were the motivation to act unprejudiced should be higher. And likewise, that implicit attitudes are more predictive in the private setting because motivation is lower. But, to monitor decision time in this manner, one has to be aware that decision time is seen as an expression of ones attitude (Gawronski, et al., 2006). It is not expected that participants will be aware of this, and hence the public setting will not influence the predictive validity of implicit or explicit attitudes. In contrast, it is expected that the situational factor of presence of the experimenter will enhance the motivation to act unprejudiced, irrespective of the individual attitudes. The public setting will decrease decision time overall, but those who are positive towards Arabs will be faster decision makers in both settings. Decision time has to my knowledge not been examined in relation to prejudice. It is therefore interesting to see how prejudice is related to positive decision time.

Studies that have examined implicit responses in relation to prejudice have mainly looked at behaviours in social interactions between persons from two different social groups. In contrast to those studies, the current research assesses implicit responses when participants are informed about an organisation representing the social group in question. As implicit attitudes can be activated by symbols that represent the social category in question (Devine, 1989), it is hypothesised that implicit responses may also be activated by *voay* as a symbol of Arabs.

In sum, my hypotheses are as follows:

(1) Change in self-touching and blinking rate.
   a) Double dissociation model: Self-touching and blinking rate are implicit responses and are related to implicit attitudes. The more negative a participants implicit attitude is, the higher the increase in blinking and self-touching when receiving information about the Arab youth organisation.
   b) Additive model: Either the implicit or explicit measure, or both implicit and explicit measures are related to increase in blinking rate and self-touching rate.

c) Multiplicative model: Drawing on the RIM model (Strack & Deutsch, 2004) and cognitive dissonance theory (Festinger, 1957), it is expected that the amount of increase in blinking rate and self-touching rate is related to the interaction of implicit and explicit attitudes. Divergence between implicit and explicit attitudes lead to feelings of conflict which is illustrated by increased blinking rate and self-touching rate.

(2) Positive decision time.
   a) Double dissociation model: since decision making in this situation is considered to be an implicit, unintentional process, decision time is expected to be related to the implicit attitude.
   b) Additive model: The implicit and explicit measures will be distinctively related to positive decision time. Either the implicit or explicit measure or both implicit and explicit measures are related to positive decision time.
   c) Multiplicative model: The time it takes the participants to decide to sign the petition is related to the interaction of implicit and explicit attitudes. Convergence between implicit and explicit attitude is related to shorter decision time because equal facilitation of both implicit and explicit attitudes in deciding to sign the petition (Strack & Deutsch, 2004). Divergence between implicit and explicit attitude is related to longer decision time because the explicit attitude may inhibit the implicitly activation deciding to sign the petition (Strack & Deutsch, 2004).

(3) Due to increased salience of norms, shorter decision time is expected in the public setting compared to the private setting.

METHOD

Participants

A total of 40 male and 41 female students aged 19-37 (M = 23.3; SD = 3.7) participated in the study. The participants were recruited via flyers and a message on the internal communication system for the university (“innsida”).

Procedure

Subjects participated individually. The experiment consisted of two parts: The first part was used to administer all the implicit and explicit measures. This was done which was done on a computer. In a second part the participants was confronted with a plea for help – and here the participants were not aware of the experiment continuing. The explicit measures were the attitudes towards Arabs scale (Nordtug, 2008), the Motivation to Control Prejudiced Reactions (Dunton & Fazio, 1997), contact with Arabs, and a collective guilt scale (Branscombe, Slugoski & Kappen, 2004). The computer was a Dell PC with a 16-inch monitor placed at a viewing distance of about 50 cm. After completing the tests, the participant notified the experimenter, who was waiting in the hallway outside the testing-room. The experimenter thanked the participants, gave them their incentive of 100 NOK, and asked them to sign for having received the reward (for keeping account). The experimenter then briefly explained the various measures (except MCPR and guilt to not disclose the hypothesis for the original study). Next (second part), the experimenter told the participant about the (pretended) co-operation with the Arab youth organization "Voice of Arab Youth" (*voay*) - what the organization does and that it is going to start up in Trondheim. On the table where the participants were seated were also some (fake) pamphlets from *voay* (see appendix A). The experimenter then asked the participants if they were interested in supporting this group, either by signing a petition to show their support, giving money, or signing up to work as a volunteer for the group. The experimenter then either left the room - saying she forgot something she had to fetch (private condition) or stayed in the room (public condition). The private condition had few names (two or three) on the petition, and the public condition had many. In addition the donation box in the public condition was a see-through box and some money was already in it, whereas in the private condition the box was not see-trough.

The participants were semi-randomly assigned to the experimental conditions by coin-flip. The first male and female was assigned to the experimental conditions by coin flip, and then every other male and female followed that condition; 40 persons participated in the private setting and 41 in the public setting.

After the participants indicated that they were done – i.e. either supported the group or indicated that they wanted to leave, changed subject etc. (public setting) or after the experimenter came back to the room (private setting), the negative affect scale (Watson, Clark & Tellegen, 1988) was handed to the participants, saying that she had forgotten it before.

After completing that, participants were fully debriefed. Then, participants were asked to watch the video with the experimenter for a video guided interview. Finally, the participants were asked to give their written consent on that we could use their data and the video footage. A copy of the form was handed to the participants. One participant allowed us to use the data but not the video. Thus, the footage was deleted in the participant's attendance. Participants were welcomed to pose questions to the experimenter. The experiment lasted approximately 45 minutes. The procedure had been pretested.

Measures

A number of explicit measures were included in the first part of the experiment. My analysis focuses however only on some of these measures. The hypotheses concerns whether implicit attitudes, explicit attitudes or the interaction of implicit and explicit attitudes are related to the nonverbal behaviours and decision time. Thus, only the explicit and implicit attitude measures together with the nonverbal behaviour, decision time variable, and the negative affect scale will be described in detail. Means, standard deviations and reliability scores are reported in Table 1.

Arab-IAT

The IAT (Greenwald et al., 1998) assesses the association between a target dimension with an attribute dimension (see appendix B). The target dimension was composed of a name-based Norwegian-Arab classification task. In the first step, the participants are asked to categorize ten Norwegian and ten Arab names. This categorization is performed by pressing a specific key on the keyboard, with the right or left hand: the "z" key for the left hand, and "-" for the right hand. The second part consists of classifying attributes. The attribute dimension was composed of a word-based evaluative decision task. The participants categorize ten positive and ten negative words by pressing either "z" or "-". Both the classification task and the evaluative task consisted of 20 trials. The third step is a combined task, where the classification task and the evaluative task are brought together. The participant is asked to press a "z" when they see an Arab name or a negative word, and the "-" for Norwegian names or positive words. Colours distinguish names from words. This task had 3x40 trials. In the fourth step the participant categorizes names again, this time the names have switched places (right-left). This task has 20 trials. In the last and fifth step all categories are combined again - Norwegian names with negative words (same key), and Arab names and positive words (same key). This combined task had 3x40 trials. If the target dimensions are differently associated

with the attribute dimensions, the participants should find one of the combined tasks (third or fifth step) to be harder than the other. If it's e.g. harder to combine Arab names with positive words and Norwegian names with negative ones response latency is longer. The measure of difficulty, by response latency, provides the measure of implicit attitudinal difference between the target categories (Greenwald et al., 1998).

Explicit attitude measure

Attitudes towards Arabs were measured using a cognitive attitude scale (Nordtug, 2008, see appendix C). The cognitive attitude measure served as the explicit attitude variable, because it focuses on personal beliefs towards Arabs. The interest in the present research is to investigate the relationship between what one *thinks* about Arabs and automatic evaluations of Arabs. I chose therefore to focus on cognitive attitudes because they concern intentional *beliefs* and *comprehensions* of the social group, rather than feelings towards the group with an affective attitude scale. The theories of Devine (1989), Wilson (2000), and Strack and Deutsch (2004) concern explicit processes as reflective, propositional, and intentional. Affective attitudes, though being important components of attitudes, represent evaluation of an attitude object based on feelings towards the group. In addition, other important studies in this field of research have primarily used explicit cognitive attitudes (Modern and/or traditional racism scale: Dovidio et al., 1997; Fazio et al., 1995; McConnell & Leibold, 200).

The cognitive scale consisted of 13 negative and 5 positive statements about Arab immigrants (see Appendix C). The items had been selected from a larger item pool on the basis of a pre-test with 198 students in the fall of 2007 (Nordtug, 2008). The answer format was a five-point Likert-scale ranging from 1 = "strongly disagree" to 5 = "strongly agree" for the cognitive scale. The answers were recoded such that a high score on the scale indicates a high degree of prejudice and vice versa. The mean on the scale was 2.4 (*SD*= 0.54). The Cronbach's alpha for the scale was .84 in the pre-test and .89 in the experiment.

Blinking and self-touching

Of the total of 81 video recordings, five where partially incomplete with the participants face partially or completely outside the video frame. The video recording of one participant had been deleted upon the participant's request. Blinking and self-touching are assessed in two different segments. The first segment (A) started when the participant sat down in the sofa to sign for receiving the incentive and get the "debriefing", and ended with the experimenter announcing that she would inform the participant about "the background" of the study.

The second segment (B) run from the point the experimenter started informing about *voay*, to the experimenter specifically asked for the participant's support of *voay*. Thus segment B included the critical part where participants received information about *voay*, while segment A served as a comparison measure. Blinking rate and self-touching rate were assessed by counting the blinks and self-touches for each segment. Self touches such as rubbing, scratching, caressing or grooming the body or its' adornments was counted. Self-touches that clearly had a function, such as taking the hair away from the face if it fell down in their eyes, taking off e.g. scarves, leaning head in hands, was not coded. The number of blinks and self-touches was divided by the duration of the segment in seconds. Then difference in blinking and self-touching was calculated by subtracting period A from period B. Participants average self-touch rate was 0.031 in segment A and 0.043 in segment B, thus there was not a lot of self-touching, which is reflected in low variance. The mean of change in blinking rate was .12 (*SD* = .14) and the mean of change in self-touching rate was .01 (*SD* = .05). Reliability of the ratings was assessed by re-coding the first ten cases after having coded all other cases, and check intra-rater agreement. Contamination of knowledge from earlier rating was attempted minimized by waiting approximately two weeks before re-codings were done. Inter-rater reliability was not used to secure the participants anonymity. Intra-rater reliability was .92 for change in blinking rate, and .89 in change in self-touching rate.

Positive decision time

Of the 81 participants, 75 signed the petition for *voay*. Video of one participant was deleted, leaving 74 persons in this sample. The time from when the experimenter finished her plea for support until the moment when the participants decided to do so was taken. This moment could be the participant explicitly saying "yes", the participant grabbing the pen, or any other signs that showed the participants' intention. When uncertain, the coder watched the video clip several times. A stopwatch integrated in a Nokia 1112 mobile phone was used for each coding. To test the reliability of the measuring of decision time, the procedure was repeated for the first ten cases. Intra-rater reliability was .79. The mean of decision time was 59 seconds (*SD* = 76).

Negative affect scale

To tap negative affect, a Norwegian translation (Strand et al., 2006) of the negative affect scale from the Positive and Negative Affect Scale, PANAS (Watson, et al., 1988) was used. The negative affect scale consists of ten adjectives: "distressed", "upset", "nervous", "scared", "hostile", "irritable", "ashamed", "jittery", "afraid", and "guilty". Participants were asked to

indicate on a five-point rating scale "to what extent they experience each of the adjectives right now" from 1 = "not at all" to 5 = "extremely". A high score indicates a high level of negative affect. Mean score was 1.27 (*SD* = .40). In the study by Strand et al. (2006) Cronbach's alpha for the negative affect scale was .90, and for the current study Cronbach's alpha was .84.

Table 1.
Means and Standard Deviations. Cronbach's Alphas for implicit and explicit attitude measures, and intra-rater reliability (r_i) for nonverbal measures and decision time (N = 75)

Measure	*M*	*SD*	α	r_i
IAT	-.38	.35	.81	
Cognitive attitude scale (18 items, 1-5)	2.40	.54	.89	
Affective attitude scale (8 items, 1-5)	3.56	.66	.84	
Positive decision time	58.84	76.36		.79
Change blinking rate	.12	.14		.92
Change self-touching rate	.01	.05		.89
Negative affect scale (10 items, 1-5)	1.27	.40	.84	

Data preparation

For purposes of analyses, change in self-touching rate and decision time was log-transformed to meet normality assumptions. Two participants had to be excluded from the sample, because of an excessive error rate in the IAT procedure. In addition, one participant had extreme change in blinking rate (over three standard deviations above the mean) and one participant had an extreme change in self-touching rate (over seven standard deviations above the mean). These were also excluded. Due to low variance in change in self-touching and blinking rates, the rates were multiplied with 100.

RESULTS

Change in self-touching rate:

A hierarchical multiple regression analysis was performed to investigate the unique contributions of implicit attitude, explicit attitude and the possible presence of an interaction effect between implicit and explicit attitudes on change in self-touching rate (Table 2).

All independent variables were z-transformed. This procedure results in the 'raw' regression coefficients being interpretable as the standardised β-coefficients (see Cohen, Cohen, West, & Aiken, 2003, p. 283). At the first step, implicit attitude was entered as predictor of change in blinking rate, which failed to account for any explained variance (p = .72). At the second step the explicit attitude was entered, which did not account for any additional explained variance (p = .51). But, entering the interaction term in the third step added 12 % to the explained variance (p = .004).

Table 3.
Hierarchical regression analysis summary for implicit attitude and explicit attitude predicting self-touching (N = 71)

Variable	β	SE	$\triangle R^2$
Step 1			<.01
Implicit attitude	-.06	.17	
Step 2			.01
Implicit attitude	-.09	.18	
Explicit attitude	.12	.18	
Step 3			.12*
Implicit attitude	-.10	.17	
Explicit attitude	.02	.18	
Implicit x explicit attitude	.52*	.17	

*p < .05
All measures are coded in a pro-Arab direction.

The only significant predictor of change in self-touching rate was the interaction term between implicit and explicit attitudes (β = .52, p = .004). This interaction is illustrated in Figure 2. The figure shows the regression of change in self-touching rate on the implicit attitude for positive and negative explicit attitude (+1 SD, - 1 SD). Participants with negative explicit attitude had higher increase in self-touching the more negative their implicit attitude is, but decrease the more positive the implicit attitude is. Participants with positive explicit attitudes had higher increase in self-touching the more positive the implicit attitudes are, but a decrease in self-touching the more negative the implicit attitudes are. That leads to the interesting conclusion that congruent implicit and explicit attitudes is related to increase in self-touching. Those with divergent attitudes had the smallest increase in self-touching. Those with negative explicit attitudes had higher increase in self-touching the more negative the

implicit attitude is, compared to those with corresponding positive explicit and implicit attitudes.

Although these data support the multiplicative model in that implicit and explicit attitudes interact in directing behaviour, the result pattern is unexpected. From the multiplicative perspective it was expected that divergence between implicit and explicit attitudes would lead to increase in self-touching due to feelings of conflict. But, the opposite was found: congruent attitudes lead to higher increase in self-touching. In sum, a multiplicative effect was found, but the result pattern is not in line with the hypotheses.

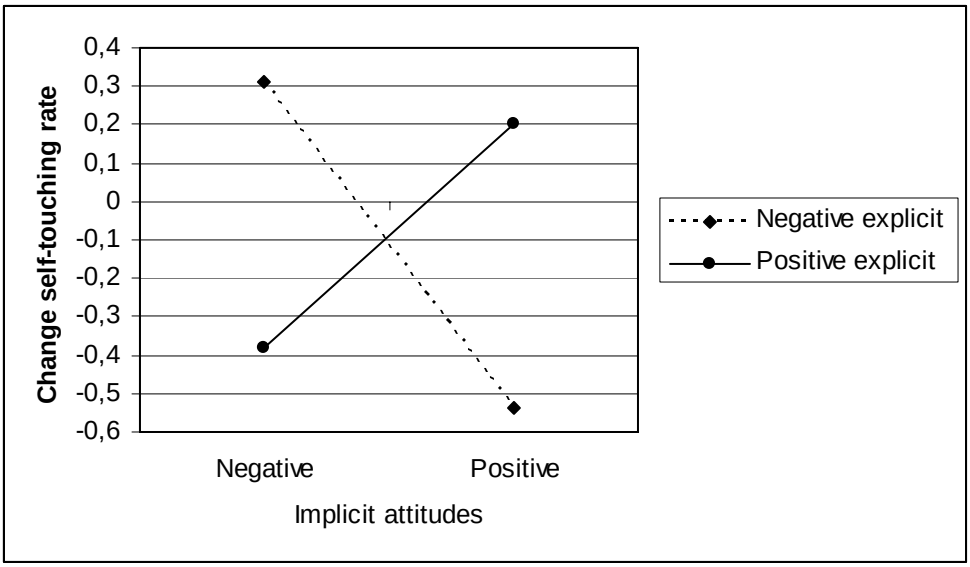

Figure 1. Regression lines predicting self-touching as a function of implicit and explicit attitudes (N = 71).

Change in blinking rate

A hierarchical multiple regression analysis was performed to investigate both the unique contributions of implicit attitude, explicit attitude and possible presence of an interaction effect between implicit and explicit attitudes on change in blinking rate (Table 2). At the first step, implicit attitude was entered as predictor of change in blinking rate, accounting for 2 % of the explained variance (p = .27). At the second step the explicit attitude was entered, which accounted for an additional 13 % to the explained variance (p = .002). Entering the interaction term in the third step did not add anything to the explained variance. That is, the only significant predictor variable was explicit attitudes (β = 4.84, p = .003), which was positively related to change in blinking rate. That means that blinking rate increased with increasing

positive explicit attitudes. This data partially support the additive model in that explicit attitudes can be distinctively related to behaviour.

Table 2.
Hierarchical regression analysis summary for implicit attitude and explicit attitude predicting change in blinking rate (N = 71)

Variable	β	SE	$\triangle R^2$
Step 1			.02
Implicit attitude	1.69	1.53	
Step 2			.13*
Implicit attitude	.46	1.48	
Explicit attitude	5.00*	1.54	
Step 3			<.01
Implicit attitude	.46	1.49	
Explicit attitude	4.84*	1.58	
Implicit x explicit attitude	.65	1.54	

*$p < .05$
All measures are coded in a pro-Arab direction.

Positive decision time

To investigate the effect of the (private and public) experimental setting, implicit and explicit attitude, and the interaction of implicit and explicit attitude on positive decision time another hierarchical regression analysis was performed (Table 4). At the first step, the (effect-coded) experimental setting was entered as predictor of decision time, accounting for 2% of the variance ($p = .19$). At the second step the implicit attitude was entered, which accounted for an additional 3% ($p = .13$). Entering the explicit attitude in the third step added 1% to the explained variance ($p = .45$). Most importantly, entering the interaction term between implicit and explicit attitude in the fourth step accounted for another 11% of the explained variance. Significant predictors in the final model were the social setting ($\beta = -.32$, $p = .03$) and the implicit x explicit attitude interaction ($\beta = -.24$, $p = .004$).

Table 4.
Hierarchical regression analysis summary for social experimental setting, implicit attitude and explicit attitude predicting positive decision time (N = 73)

Variable	β	SE	$\triangle R^2$
Step 1			.02
Setting [a]	-0.19	.14	
Step 2			.03
Setting [a]	-0.23	.14	
Implicit attitude	-0.12	.08	
Step 3			.01
Setting [a]	-0.27	.15	
Implicit attitude	-0.11	.08	
Explicit attitude	-0.06	.08	
Step 4			.11*
Setting [a]	-0.32*	.15	
Implicit attitude	-0.12	.07	
Explicit attitude	<.01	.08	
Implicit x explicit attitude	-0.24*	.08	

[a] The social setting was coded as -.50 for private and .50 for public setting.
*$p < .05$
All measures are coded in a pro-Arab direction.

The interaction effect of implicit x explicit attitude is illustrated in Figure 1. The figure shows the regression of positive decision time on the implicit attitude for positive and negative explicit attitude (+1 SD, - 1 SD). Participants with positive explicit attitudes decided faster to sign the petition list the more positive their implicit attitude is, but slower when the more negative their implicit attitude is. Participants with negative explicit attitudes responded faster the more negative their implicit attitude is, but slower the more positive the implicit attitude is. Thus convergence between the implicit and explicit attitude is related to shorter positive decision time, while divergence is related to longer decision times which is more pronounced in those with positive explicit attitudes. The interaction effect is in line with the multiplicative model, in that convergent attitudes are related to shorter decision time and divergent explicit and implicit attitudes are related to longer positive decision time. This supports Strack and Deutschs' (2004) theory on that behaviour is facilitated when explicit and implicit systems work in synergy.

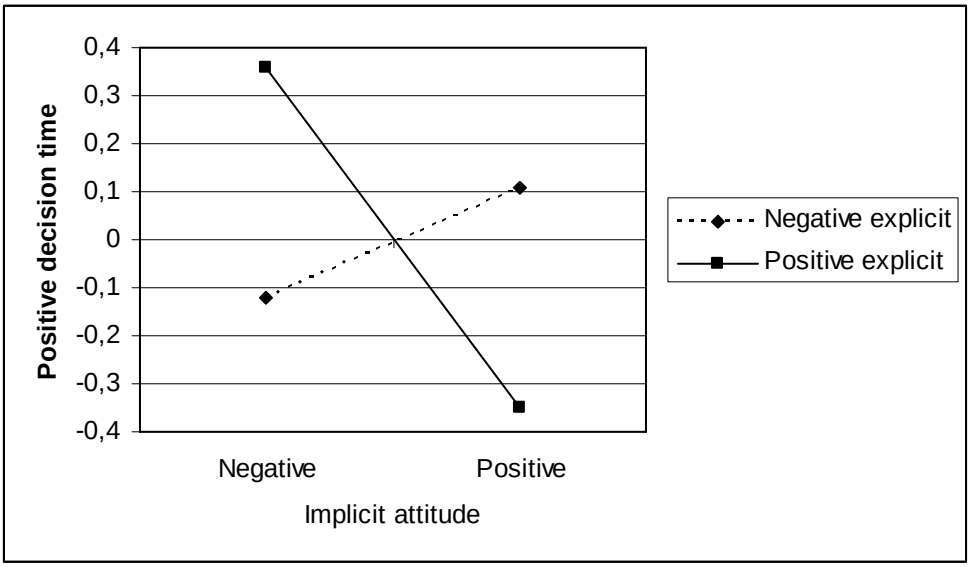

Figure 2. Regression lines predicting positive decision time as a function of implicit and explicit attitudes (N = 73.

The other significant predictor is social setting. As a main effect the decision time was longer in the private setting (*M* = 81 sec), than in the public setting (*M* = 40 sec). Thus, the third hypothesis that norms are more salient in a public setting and that will lead to shorter decision time is supported. To check for a triple interaction effect between setting, implicit and explicit attitudes, another hierarchical regression analysis was performed with the interaction term between implicit x explicit x setting in the last step. This step was however not significant (*p* = .69), and did not add anything to the explained variance of the model.

Negative affect

Zero-order correlations were performed between the dependent variables and the Negative Affect Scale together with the single items in the Negative Affect Scale. Neither change in blinking rate, change in self-touching rate, nor positive decision time was correlated with the negative affect. However, change in blinking rate was correlated with the items of feeling "frightened" (*r* = .36, *p* = .002) and "ashamed" (*r* = .26, *p* = .028) in the negative affect scale. The higher the increase in blinking rates – the more frightened and ashamed the participants reported to feel. Also, the experimental setting was related to negative affect (*r* = .36, *p* = .002). On average participants in the public setting reported having more negative feelings (*M* = 1.4) than those in the private setting (*M* = 1.1, *t*(77) = -3.33, *p* = .001).

In sum, the three implicit cues gave three different results. Change in self-touching rate and positive decision time supported the multiplicative model, although self-touching in an unexpected way. Change in blinking rate partially supported the additive model.

DISCUSSION

The aim of the study was to investigate if and how implicit and explicit attitudes towards Arab migrants are related to changes in blinking and self-touching rates when receiving information about an Arab youth organization, and the time it takes to sign a petition list when asked to support the organization. Three possible relationships were tested (Perugini, 2005): (a) implicit attitudes direct the implicit responses (double dissociation model). From this perspective it was expected that negative implicit attitudes are related to increase in blinking and self-touching rates, and longer positive decision times. The second possibility is that (b) both implicit and explicit attitudes may be related to the implicit responses (additive model). From this perspective it was expected that both implicit and explicit attitudes were related to changes in blinking and self-touching rates and decision times. The third possibility is that (c) implicit and explicit attitudes interact in directing responses (multiplicative model). From this perspective it was expected the interaction between implicit and explicit attitudes are related change in blinking and self-touching rates. More specifically, divergence between implicit and explicit attitudes will lead to dissonance which is displayed by increase in blinking and self-touching rates. With respect to decision time, it was expected that convergent attitudes would lead to shorter decision time because convergent implicit and explicit attitudes facilitate behaviour. The multiplicative model was supported with respect to self-touching rate, but the pattern was not as expected. It was expected from the multiplicative perspective that divergence between implicit and explicit attitudes would be related to increased self-touching rate because of feelings of conflict. In contrast, those with *con*vergent implicit and explicit attitudes had the highest increase in self-touching, while those with divergent attitudes had the least change in self-touching. The additive model was supported in change in blinking rate, but only explicit attitudes were related to blinking, not implicit attitudes. And interestingly, positive explicit attitudes were related to increase in blinking rate. Support for the multiplicative model was also found in relation to positive decision time. In line with the multiplicative hypothesis, those with convergent implicit and explicit attitudes responded faster than those with discordance between implicit and explicit attitudes. This effect was strongest for those with positive explicit attitudes.

Increased self-touching rate

Self-touching is according to Ekman and Friesen (1969) an "adaptor" that represents "emotional leakage", portraying an individuals' aroused affect. Ekman and Friesen (1974) have also linked increased self-touching rate to stressful situations. Self-touching is according to Harrigan (1985) a sign of negative affect, but also language processes. Harrigan's (1985) conclusions are based on studies on conversations between physicians and their patients. But, interactions between a physician (expert) and a patient are very different from receiving information about a group one may or may not have prejudiced against. In the prejudice domain, Olson and Fazio (2007) found that subjects who evaluated a specific black person in discordance with the subjects' implicit attitude towards Blacks self-touched more than individuals who evaluated the specific black person in congruence with ones implicit attitude towards Blacks. They interpreted the increased self-touching as a sign of discomfort. From the multiplicative perspective in the current study it was hypothesized that increased self-touching will be displayed as a sign of conflict between implicit and explicit attitudes (Gawronski & Bodenhausen, 2006; Strack & Deutsch, 2004). Thus, increased self-touching rate should have been prominent with those with divergent attitudes. In contrary, it was found that *con*vergent attitudes were related to increased self-touching rate. Thus increased self-touching rate cannot signify conflict between implicit and explicit attitudes. So why do those with convergent attitudes have a higher increase in self-touching? If self-touching indicates negative affect, the clearest indication from the present findings is that those with both negative implicit and explicit attitudes (negative-negatives) felt uncomfortable when informed about the Arab youth group, and hence self-touched more as a sign of unease. What is not clear is why those with both positive implicit and explicit attitudes (positive-positives) displayed increase in self-touching. It is possible that they experience conflict between wanting to support the group but not knowing what they will be asked for, they ponder on what they are willing to do. Another explanation concerns conflict between *wanting* to act positive and *acting* positive. Devine (1996) suggest that persons who are highly motivated to act unprejudiced, actually act tense or uncomfortable in interpersonal interactions because their motivation interferes with a smooth interaction. In the same way, it may be that those who are positive towards Arabs really want to act positive when informed about the Arab youth group, but not knowing how this is done they experience doubt and uncertainties and hence have an increase in self-touching. However, it does not explain why self-touching decrease with positive explicit when the implicit attitudes are negative. Should not all those who are explicitly positive be acting tense? In addition, interpersonal interaction with someone from a different social

groups are more anxiety provoking than interaction with someone from the same social group (Dovidio et al, 1997; Littleford, Wrigth, Sayoc-Parial, 2005). Thus, the experimenter and the participants being in the same social group, the wish to act non-prejudiced should not be as high.

Another explanation is that increase in self-touching rate indicates feeling *comfortable*. Hofmann, Gschwender, Castelli, & Schmitt (2008) investigated whether implicit and explicit racial attitudes predict interracial interaction behaviour differently as a function of situational available control resources. An interesting finding in their study was that participants with more positive attitudes towards Africans engaged in more self-touching compared to those with negative racial attitudes, but only when control resources were available. They explained this by interpreting self-touching as a sign of comfort: participants with positive explicit attitudes felt more comfortable and therefore self-touched more in the presence of the African confederate. In addition, Harrigan, Lusic, Kay, McLaney, and Rosenthal (1991) found that individuals who did not self-touch was perceived by others as less expressive, warm, and interested, compared to those who did. Interpreting self-touching as a sign of comfort would be in line with the initial multiplicative hypothesis that divergent attitudes are related to conflict. Having convergent attitudes means that they are comfortable being informed about the organization and hence acts more relaxed (self-touches). On the other hand, those with divergent attitudes are not as relaxed and rather "freeze up". This explanation seems more plausible compared to the "self-touching as negative affect interpretation" in that it accounts for the negative-negatives, the positive-positives, and those with divergent attitudes.

But, this explanation seem to be in disagreement with the findings in the study by Olson and Fazio (2007) who found increased self-touching with those who evaluated a specific person in divergence with their implicit attitude. However, that study is very different from the present. First, it concerns evaluating a person, not receiving information about a group. Second, it concerns divergence between implicit attitudes and evaluations of a *specific* person belonging to that social group. The current study concerns divergence between implicit and explicit attitudes – both being *general* attitudes towards a group. Third, in the study by Olson and Fazio (2007) the participants' nonverbal behaviour was assessed when they made an explicit evaluation of the specific persons in front of a video camera. Thus, the participants may have been more self-conscious of their behaviour compared to the present study where self-touching was assessed when they did not know that they were being filmed.

In a way, the non-verbal behaviour in the current study was made more in *private*. Therefore, the results in the study by Olson and Fazio (2007) and the present study are not very comparable.

Increased blinking rate

Blinking is interpreted as indicator of negativity by Dovidio et al. (1997) who found higher blinking rates among white participants when they interacted with a black versus a white experimenter. This assumption was based on research that has found connections between blinking rate and anxiety provoking situations (Doering, 1957; Kanfer, 1960). Based on this, the present data showed that the more positive a person's explicit (self-reported) attitude is, the more negative she or he experienced the situation of being informed about an Arab youth organization. So why should those with positive explicit attitudes experience that situation so negatively? One explanation could be that they suspect that the situation has further consequences than including only information, which makes them nervous. "Is the experimenter going to ask me for something?" People want to be consistent in words and actions (Festinger, 1957). When having explicitly reported that they have positive attitudes towards Arabs, they may feel like they have to follow up this report with a corresponding behaviour. They might feel "pressed" to show interest or support and this seems to hold no matter whether if the individuals show a implicit attitude of similar valence or not. Those who reported negative attitudes would not feel anxious because a consistent behaviour would be to desist from any interest in or support of the Arab organization. Increased blinking rate was related to feeling ashamed and frightened on the Negative Affect scale (Watson et al., 1988). This could support the idea that increased blinking rate indicates negativity. However, the participants filled out the scale *after* supporting or not supporting the Arab youth organization. So we can't really know how they felt during receiving the information. It is possible that their affect level had changed in between those two points in time.

An alternative interpretation is that blinking rate is related to attention (Ichikawa & Ohira, 2004; Fukuda, Stern, Brown, & Russo, 2005; Karson et al. 1981). Karson et al. (1981) found that blinking rate increased under tasks including memorizing and speaking. Furthermore, Fukuda et al. (1991) found that blinking rate increases with the processing of information. In addition, Ichikawa and Ohira (2004) propose that blinking rate is a good indicator of cognitive processing. Also, Knapp and Hall (2006) propose that blinking rate is related to arousal, which could also mean arousal of attention. Based on that, increased blinking rate with

increasing positive explicit attitudes could mean higher attention among those who are positive towards Arabs, compared to those who are negative, when receiving information about an Arab youth group. People are often more attentive to things they are positive against (Celsi & Olson, 1988; Pieters, Rosenbergen, & Hartog, 1996). E.g. Celsi and Olson (1988) found that people pay more attention to ads which they view as relevant, interesting and important. Pieters et al. (1996) found that subjects high in motivation to process commercial ads paid more visual attention to the ad compared to the low motivation individuals. Thus, blinking could signify that participants with positive attitudes towards Arabs view the information as more relevant and interesting, than participants with negative explicit attitudes towards Arabs do, and hence pays more attention to the information.

In sum, there are two contradictory interpretations of the meaning of increased blinking rate. First, increased blinking rate can imply increased negative affect. From this interpretation, those with positive explicit attitudes were more negative. According to the second interpretation, increased blinking indicates increased attention. From this interpretation, those with positive explicit attitudes were more attentive when receiving information about the Arab youth group. With the interpretations of self-touching and in mind, the "attention interpretation" seems to be most plausible. The interpretation on blinking as sign of negative affect does not fit with the interpretation of self-touching as sign of comfort. It does not make sense that the explicitly positive ones would feel negative affect (increased blinking), but be comfortable (increased self-touching) when informed about the Arab youth group. It seems more logical that blinking in this situation indicates increased attention: Those with positive explicit attitudes had an increase in blinking (attention) and they also acted comfortable when their implicit attitudes were positive as well. In addition, the negative-affect-explanation relies on the assumption that the participants suspect that they are going to be asked to support the organization *and* that that makes them nervous. The attention-explanation has fewer circumstantial assumptions, and thus seems like a stronger explanation.

The interpretation of blinking as sign of increased attention seems however to be in disagreement with the interpretation by Dovidio et al. (1997). Dovidio et al. (1997) found higher blinking rates among White participants with negative implicit attitudes when they interacted with a Black versus a White interviewer. Dovidio et al. (1997) interpreted blinking as sign of negative affect, a leakage of implicit negativity. However, it might be that the attention-explanation also could pass also for the Dovidio-study. In their study participants

rated their own behaviour towards the interviewer. Overall, participants reported acting equally positively towards both Black and White interviewers. It seems like all participants tried to behave likeable and sincere when interacting with Black and White partners. Vorauer and colleagues (Vorauer, Hunter, Main, & Roy, 2000; Vorauer, Main, & O'Connell, 1998) suggest that majority members such as Whites are aware that minority members expect them to be prejudiced. As a consequence majority group members are concerned with appearing prejudiced in interacting with a person from the minority group. In the study by Dovidio et al. (1997), it might be that behaving positively towards Blacks is "harder" for those with negative implicit attitudes. They have to focus on how they act, which require that they are attentive and alert. Increased blinking rate could indicate increased attention towards behaving non-prejudiced. Thus it is possible that due to focus on monitoring ones own behaviour; the increased blinking is not a direct sign of negativity, but rather a sign of increased attention trying not to act prejudiced. From this perspective, the results from this study are not in disagreement with the study by Dovidio et al. (1997).

Positive decision time

Decision time is different from blinking and self-touching. Blinking and self-touching are nonverbal behaviours that occur rather spontaneously and are believed to indicate affect or attention (Ekman & Friesen, 1974), while decision time how easy or difficult it is to make a decision.

The findings support the multiplicative hypothesis that decision time is related to the interaction between implicit and explicit attitudes. Those with convergent implicit and explicit attitudes used shortest time to decide to sign the petition, especially when the attitudes were positive. This may illustrate that the positive-positives did not have to think about the request, but spontaneously agreed to sign the petition – it was an easy decision to make. This supports the RIM by Strack and Deutsch (2004) in that implicit and explicit processes can work jointly or in competition in activating behavioural schema. Behaviour is facilitated when implicit and explicit attitudes work in synergy (Strack & Deutsch, 2004). Following common sense logic, one might expect that the negative-negatives would use the longest time to decide. But in accordance with the multiplicative hypothesis the negative-negatives also agreed fast to sign the petition. This could be explained by a need for closure. Having negative implicit and explicit attitudes towards Arabs and being in a situation where one is asked to support an Arab youth organization should not be very enjoyable. An easy way to end the situation is to

sign the petition list (compared to giving money or volunteering to work for the group), which is also more socially acceptable that not doing anything at all. After being asked to support the organisation, and hearing the various ways in how they can give support, the negative-negatives realize that the most straightforward way to do it, and be done with it, is to sign the petition. If they attribute their decision as a mean to get out of the situation, signing the petition does not have to collide with their implicit reaction or their personal belief. Thus, it should not be a very difficult decision to make. Moreover, this supports the RIM (Strack & Deutsch, 2004) in that when reflective and impulsive contribute to the activation of the same schema, cognitive capacity required to control the execution of the behaviour is decreased. Relatively short decision time could be an example of decreased cognitive capacity.

Those with divergent implicit and explicit attitudes used longer time to decide. Of special interest are those with negative implicit but positive explicit attitudes because those were the absolutely slowest ones. When the implicitly activated attitude is negative and the explicit attitude is positive, different behavioural schema is activated and with having time and resources to consider the reflective attitude, the negative implicit attitude is inhibited (Strack & Deutsch, 2004). E.g. one has an automatically negative reaction towards the request, but *believing* that Arabs are good people, one decides to support the group. Because one has to overcome the negative reaction (which doe not have to be consciously done) and search the reflective system for guidance on what to do, the decision takes time. From the Devine framework (1989; 1996; 2005; Amodio & Devine, 2006) we could say that this long decision time is an example of acting upon ones personal belief, despite negative implicit attitudes. The negative automatic reactions are viewed as unacceptable and they respond based on their non-prejudiced explicit attitudes. This process also closely resembles what Wilson et al. (2000) call “motivated overriding”, which is when an automatically activated attitude is viewed as illegitimate or unwanted, and is overridden with a different attitude. Here the individual is aware of the implicit attitude, and is motivated to override it with a different attitude. It is likely that the participants are aware of their implicit attitude due to the IAT procedure. Participants will notice how easy or difficult it is to assign negative or positive attributes to Arab names, and hence get an idea on what their implicit attitude is. The long decision time shows that this “correction” is effortful.

For those with a negative explicit attitude the implicit attitude is not that strong a mediator. When the implicit reaction was positive, decision time was somewhat longer.

This can indicate as with the explicit positives that it take some time to negotiate between the initial reaction and the reflective attitude. But as the negative-negatives they might attribute the decision as a mean for closure, hence the explicit attitude is not compromised. In contrast to those with negative implicit but positive explicit attitudes whose decision may be based on their reflective/propositional belief, those with positive implicit but negative explicit attitudes may have based their decision on the implicit attitude *or* conforming to social norms. That is, the negative-positives sign the petition because their automatic reaction was positive, or they sign because it is the more socially acceptable thing to do, and it is easy.

Convergent attitudes could be related to attitude certainty. Petrocelli, Tormala, and Rucker (2007) indentify two aspects of attitude certainty: attitude correctness and attitude clarity. Attitude clarity is a feeling that one knows what ones true attitude on a topic really is (Petrocelli et al., 2007). Attitude convergence could be related to attitude clarity. When one has convergent implicit and explicit attitudes, one maybe has a clear sense of what ones attitude on the topic really is, and it is easier to make decisions related to the attitude topic. In contrast, when attitude to the object is divergent and less clear, it takes more time to make a decision. When asked to support the Arab group (and take a stand), they must think about what they want to do and thus needs more time to make the decision. For those with clear, convergent attitudes, the decision process is easier and hence shorter.

Moreover, several researchers have found that when people are ambivalent, they tend to engage in more attitude-relevant processing, (Jonas, Diehl, & Broemer, 1997; Maio, Bell, & Esses, 1996; Petty, Tormala, Briñol, & Jarvis, 2006). If divergent implicit and explicit attitudes lead to a kind of ambivalence as hypothesized by Strack and Deutsch (2004) and Gawronski and Bodenhausen (2006), it is logical that participants with divergent attitudes use longer time to come to a decision. Maybe they need time to process attitude relevant information (flyer about *voay*)? Petty et al. (2006) have found that divergent implicit and explicit attitudes lead to greater inspection of attitude-relevant information. Petty et al. (2006) argue in line with the DAM by Wilson et al. (2000) that when attitudes change, the old attitude may still remain in memory as an implicit attitude. The experiments by Petty et al. (2006) concerned creating attitudes by presenting the participants with positive information about one person and negative information about another. Half of the participants were then told that by an error the names of the persons had been switched. So, the favourable facts concerned the other person. They were then asked to evaluate the person as a job candidate.

They found that when evaluating the person in which one have changed attitude against, individuals displayed *implicit* ambivalence. That is, the participants acted as they experienced some conflict between implicit and explicit attitudes in that they engaged in greater scrutiny in attitude-relevant information. In sum, the participants in the study by Petty et al. (2006) participants used more resources to make an evaluation when having divergent attitudes, and in the current study participants used longer time to decide when having divergent attitudes. It may be that the participants in the current study engaged in more information processing when their attitudes were divergent. The study by Petty et al. (2006) is different from the current study on many points. E.g. in the Petty-study attitudes were *created* and also *changed* in the experiment. The current study concerns the attitudes the participants had with them when coming into the experiment, and did not attempt to change them. Still, together these results indicate that having divergent attitudes could effect making evaluations. It seems like having divergent attitudes makes it harder to make decisions, either if it concerns helping a group or recommending a person for a job or not.

Situational influence on decision time

Making the decision to sign the petition in the presence of the experimenter and knowing that other participants before have signed the petition had a positive influence on decision time. Those in the public experimental setting made the decision faster than those in the private setting. The experimental setting had a main effect on decision time, thus the relationship between implicit and explicit attitudes was not affected by the experimental setting. There was not a triple interaction between implicit, explicit attitude and setting. When implicit and explicit attitudes act in a synergistic manner behaviour is facilitated, and social setting amplify this effect. Decision time is longer when implicit and explicit attitudes are divergent, and when the decision is in addition made in private decision time is even lengthier. Also, those in the private setting reported more negative affect than those in the private setting. It seems like the social pressure in the public setting was experienced as uncomfortable, and hence the participants made the decision to sign faster to be finished with the situation.

Summary

Those with positive explicit attitudes blinked more presumable because of stereotype threat. When the implicit attitude was positive as well, they had an increase in self-touching which may indicate comfort. Thus, stereotype threat seems to be pronounced when implicit and explicit attitudes are divergent. Individuals with convergent positive attitudes also agreed very

fast when asked to support the organization by signing a petition. In relation to negative attitudes, the more negative explicit attitude, the more decrease in blinking rate, which could indicate inattention or less attention compared to those with positive explicit attitudes. Those with negative explicit attitudes had an increase in self-touching rate with increasing negative implicit attitudes, which may indicate comfort. Thus, having convergent attitudes seems to be related to feeling comfortable in relation to attitude relevant information. Those with divergent attitudes, on the other hand, may act less relaxed (tense) because of conflicting attitudes. The negative-negatives also made the decision to support the organization relatively fast. For those who are positive-positive, the fast or immediate decision could show that they really have no hesitations about supporting the group, while those who are negative-negative may make the decision fast as an easy mean to get out of the situation. Making the decision in public lead to faster decision making compared making it in private, presumably by making social norms salient.

Discrimination?

One important point that these data indicate is that one cannot easily infer people's attitudes and beliefs from their nonverbal behaviour or other implicit responses such as their decision time. These implicit responses or cues reflect an intricate relationship between conscious, intentional beliefs and automatic, unintentional attitudes. I.e., if someone "freezes up" in a social setting does not have to signify a direct negativity. Rather, the current research suggests that it signifies divergence between explicit and implicit attitudes. Thus persons with divergent attitudes will freeze up even if they are explicitly positive or negative. Likewise, will those who display prejudice on both implicit and explicit measures act as comfortable as those who do not display any prejudice. Thus, judging someone from their body language is a risky enterprise. Also, it is suggested that decision time reflect attitude clarity rather than direct positivity or negativity. A slow decision does not have to indicate reluctance towards the request. A slow decision rather indicates a thoughtful consideration were the explicit attitude is expressed when the automatic attitude diverges from the explicit.

Differences from other studies

As pointed out by Perugini (2005) the multiplicative idea has not been tested in previous research. The current study differs from other studies in the same area in that it tested the multiplicative idea. Although other studies have supported the double dissociation model (e.g.

Bessenoff & Sherman, 2000; Dovidio et al., 1997; Dovidio et al., 2002), it may be that there existed an interaction between implicit and explicit attitudes that were simply not tested.

Some research in the prejudice domain has demonstrated a direct relationship between implicit prejudice and nonverbal behaviour (Dovidio et al., 1997; Fazio et al., 1995; McConnell & Leibold, 2001). The current research differs from those in several ways. The other studies investigated the double dissociation model with a focus on interacting with a person from the minority group. This study focuses however on being informed about and asked to support an organization representing the minority group, without the presence of someone from the minority group. This difference is important in two points. First, the present study addresses an *organization*, not a specific individual. Second, the participants in the present study did not interact with someone from the minority group. Thus in the present research participants interacted with someone in their in-group, but were informed about an out-group, compared to interacting with someone from an out-group. Interracial interactions are often more anxiety provoking than interactions with someone from ones in-group (Dovidio et al, 1997; Littleford, Wrigth, Sayoc-Parial, 2005). In addition, inter-personal contact also has the possibility that the member of the majority group is motivated to behave non-prejudiced, but this high motivation interferes with a smooth interaction. As a consequence the majority person is therefore perceived as being negative towards the member of the minority group (Devine, 1996). One should therefore expect different interactions in this study compared to studies with interracial contact. Another important difference is that this study addressed prejudice against Arabs. Previous research has predominantly focused on prejudice against Blacks (ref.), particularly in the USA. Blacks in the USA make up a far bigger part of the populations than Arab immigrants in Norway. It may be that attitudes have a different relationship with nonverbal behaviours and decisions in relation to more known groups, compared to a social group one is less likely to have interacted with.

Limitations

One of the main limitations of the research is that the study was based on post hoc assumptions on an experiment already done. The experiment was not designed with my hypotheses in mind. Thus there should be better ways of investigating my research questions. The following limitations are connected to problems with post hoc testing.

A limitation that has been illustrated in this discussion is the selection of indicators. It is hard to interpret blinking and self-touching rate because they are so subtle. Because of the uncertainty around what they indicate, the results are limited. A limitation with the use of decision time is that this measure only included those who actually signed, which is a positive behaviour. We do not know when those who did not sign the petition decided not to sign. This indicator was however chosen because only six participants did not sign the petition. Another limitation is that coding of self-touching was done in a rather simple way, by counting number of self-touches regarded as an adaptor (Ekman & Friesen, 1972). The camera was set up to capture the participants face. As a consequence, all touching of the face and head have been coded. But, sometimes their hands could be outside the video frame, and some valuable self-touching data may have been missed. An important point to emphasize is that although significantly being related to decision time and self-touching, the total variance explained by implicit and explicit attitudes was quite small. Thus, there is a good deal of variance unaccounted for. Future research should explore what other variables that can add to this variance, perhaps motivation and cognitive capacity?

My study did not include a deliberate behavioural measure. To test the complete double dissociation model, deliberate (explicit) behaviours should also be examined.

The study included a negative affect scale, but since it was administered after the participants had supported or not supported the organization, the affect level measured by the scale may not be related to the affect level during receiving information and deciding to sign the petition. In addition, the scale only included the negative affect scale, not the positive affect scale, which made it impossible to see if e.g. making the decision fast is related to positive affect.

This study used intra-rater to check reliability of the nonverbal measures and decision time, to secure anonymity of the participants. Intra-rater scoring is however problematic because the rater subsequent rating are contaminated by knowledge of earlier ratings. But, this contamination was attempted reduced by waiting two weeks before the second ratings were done.

There is also a problem with causal interference. Since predictor and outcome variables were collected in the same experimental session, it might be that the implicit and explicit attitude measures influenced the implicit responses?

Future research

Future research could take up the limitations. More complex coding techniques of self-touching could include rating the duration of the self-touch and where the touch is located (Harrigan, Lucic, Kay, McLaney, & Rosenthal, 1991). A more sophisticated coding might give more clear results. In addition, the change in self-touching was so low that it is maybe impossible to see with the bare eye that the participants had an increase or not. However, the total impression of the participants change in body-language maybe more noticeable. Future research could include more non-verbal behaviours, such as facial expressions (smiling, frowning), eye-contact with the experimenter, and open or closed posture. It may also be a good idea to include a measure of perceived comfortableness and attentiveness as rated by judges unaware of the hypotheses.

It would be useful to see if there are any differences in the nonverbal behaviours and decision time depending on the experimenter. One could have manipulated the situation by using an Arab experimenter (e.g. a woman wearing a hijab) for half of the participants and an ethnic Norwegian for the other half. Then potential comfort or attention in interacting with the Arab woman could have been examined, to see if the pattern found in the current study is enhanced, reduced or different.

As noted, there is a problem with decision time in that it only included those who actually signed the petition. An alternative is to pose a close-ended request to the participants, which would require them to answer with either yes or no. This would however increase the social pressure, compared to the more open choice of just desisting to sign without explicitly declining. Another possibility is that the participants could choose to support one organization from many groups. E.g. in the second part of the experiment participants are asked to participate in “another experiment” about decision making. Here they are asked to recommend a youth group to get financial support from the government, based on information available. They are presented with information from several youth groups, equally many for Norwegian and Arab. The time it takes them to make a decision would serve as a spontaneous or unintentional variable, and the group recommended would serve as the deliberate variable.

The participants could also be asked about how much financial support they would recommend the government to give the chosen group, which would be an additional deliberate variable. Including both deliberate/explicit and spontaneous behavioural measures enables an examination of the complete double dissociation model.

To solve the problem with affect, a PANAS scale could be integrated after the participants are finished with the attitude measures and before the plea for support. This way it is possible to see if affect after having your attitudes assessed are related to the attitudes; implicit, explicit, or the interaction. As it is hypothesised that convergent attitudes indicate feeling comfortable or relaxed, the affect scale should also include the *positive* affect scale for the opportunity to see if the interaction between implicit and explicit attitudes could be related to positive affect, compared to having divergent attitudes. Having affect scales both before and after the plea for support makes it possible to investigate whether the plea for support (and support) influences affect.

To investigate whether divergent implicit and explicit attitudes are related to more processing of attitude-relevant information, one could have examined to what degree participants acquire more information. E.g. one could rate if the participants read, or how long time they read, the pamphlets about the organizations, or asks the experimenter for more information. If individuals with convergent attitudes engage in less information processing (and perhaps decides to support a group faster), it would support the idea that convergent attitudes are related to attitude clarity.

To solve the problem with causal interference future research could split the assessment of predictor and outcome variables in two halves. E.g. have the “decision making task” in a separate experiment some weeks later.

Conclusion

The data challenge the idea that implicit attitudes guide subtle, unintentional behaviours, whereas explicit attitudes guide explicit, intentional behaviours. It is suggested that implicit and explicit attitudes can interact in guiding behaviours in relation to prejudice. It was found that decision time in deciding to support an Arab youth organization is related to the interaction between implicit and explicit attitudes. More specifically the decision was facilitated when implicit and explicit attitudes converge. It is hypothesized that this indicates

that convergent attitudes are “clear” attitudes. When the implicit attitudes was negative and the explicit attitude positive, participants needed time to correct for or override the negative immediate reaction and hence decision time was longer. The multiplicative model was also supported by the self-touching data. When attitudes were congruent, participants had a higher increase in self-touching rate. It is suggested that this indicates feeling comfortable when having convergent attitudes when receiving attitude relevant information. This supports the RIM theory by Strack and Deutsch (2004) that states that reflective and impulsive processes can work synergistic or antagonistic in directing behaviour, and synergistic activation is related to a feeling of fluency which has a positive quality.

It was also found that positive explicit attitudes were related to increase in blinking rate. This shows that implicit responses, such as blinking, are not necessarily related to implicit attitudes, but in this case to explicit attitudes, which challenges the double dissociation model.

Few studies before have shown how implicit and explicit attitudes interact in the prejudice domain. Other studies have focused more on conditions that influence whether implicit or explicit attitudes are more likely to direct behaviour, such as cognitive capacity and motivation. This study shows that implicit and explicit attitudes do not necessarily work in parallel, but can also interact. The findings may have indications for theory on attitude certainty and attitude-behaviour consistency.

An important message from these data is that one should test all predictive models whenever possible, in line with Peruginis (2005) request. By merely testing the dissociation model for example, an interaction or additive effect might be overlooked.

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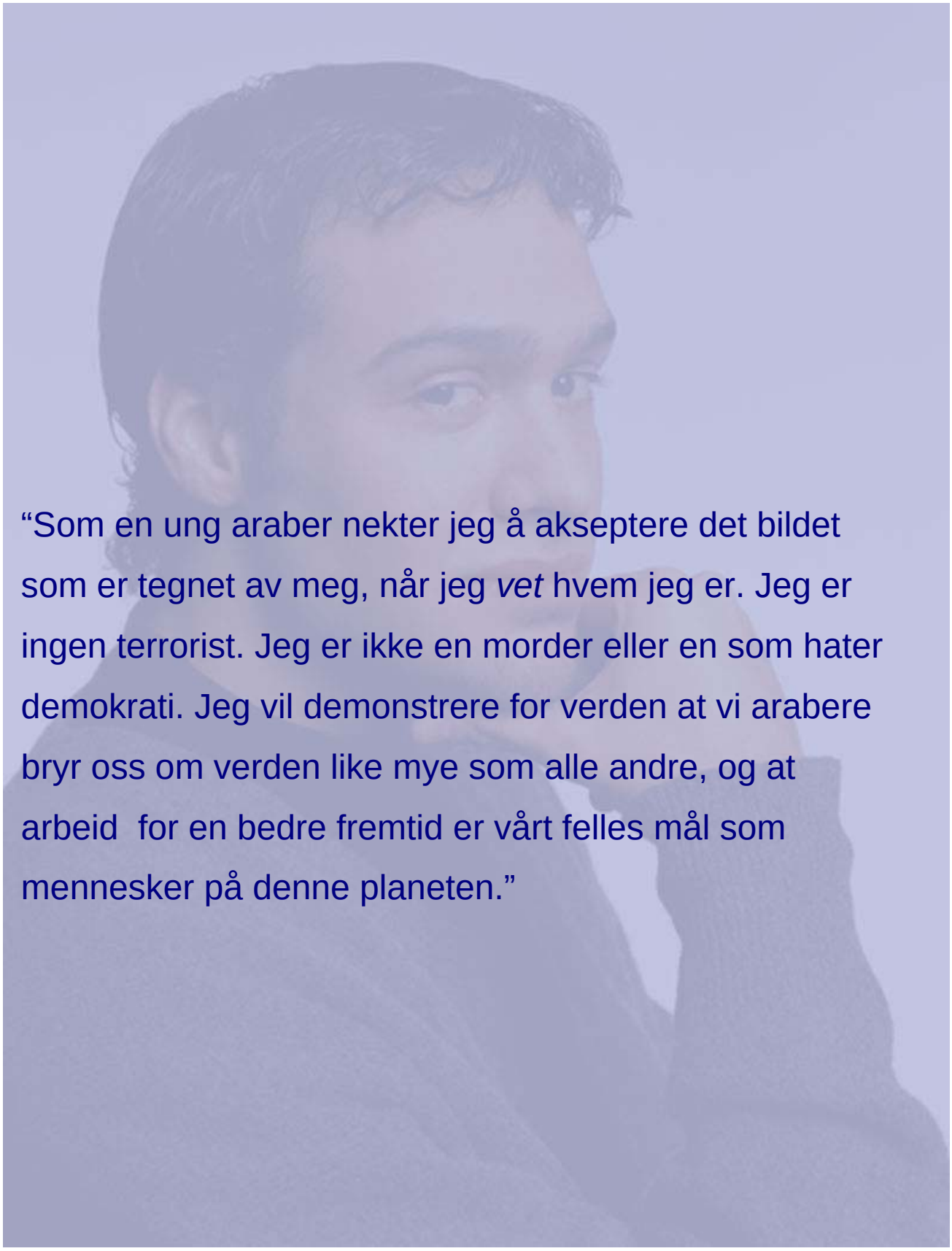
APPENDIX A: pamphlet from voay

VOICE OF ARAB YOUTH

صوت الشباب

Voice of Arab Youth (VOAY) er etablert av “the Academy for Educational Development” (AED) og har som målsetting å gi unge arabere en sjanse til å jobbe med utviklingsprosjekt i sine lokalsamfunn. Utvalgte deltagere mottar opplæring og finansiering som støtte til deres prosjekter.

VOAY er designet for å gjøre det mulig for 18-25 år gamle arabiske ledere å realisere samfunnsvekst, i selvlagde prosjekter innen områder som utdanning, helse, og/eller skapning av arbeidsplasser.



“Som en ung araber nekter jeg å akseptere det bildet som er tegnet av meg, når jeg *vet* hvem jeg er. Jeg er ingen terrorist. Jeg er ikke en morder eller en som hater demokrati. Jeg vil demonstrere for verden at vi arabere bryr oss om verden like mye som alle andre, og at arbeid for en bedre fremtid er vårt felles mål som mennesker på denne planeten.”

Hvorfor stole på Voice of Arab Youth?

- VOAY er en politisk uavhengig organisasjon
- Pengene vi får kommer fra donasjoner, ikke fra avtaler med interesseorganisasjoner.
- Våre mål er nasjonsoppbyggende, edle, arabiske og ekte.
- Våre gevinster og suksesser er målt ved den positive innvirkningen ungdommene har i samfunnet.



VOAY prøver å nå arabisk ungdom i alle kanter av verden.

Vi skal nå åpne kontorer i Trondheim. Her vil vi gi unge arabere i Trøndelag en sjanse til å starte opp noe eget. Til det trenger vi hjelp fra deg.

Besøk oss på www.voay.org for å finne ut hvordan du kan bidra.

APPENDIX B: IAT items

Attribute items	
POSITIVE	**NEGATIVE**
Lykke	Pine
Latter	Smerte
Vidunderlig	Avskyelig
Nytelse	Ufyselig
Herlig	Tragisk
Vakker	Stygg
Blomst	Møkk
Vakker	Heslig
Solskinn	Råtten
Suksess	Fiasko

Target dimensions	
ARAB	**NORWEGIAN**
Akbar	Anders
Hakim	Espen
Hassan	Frode
Ibrahim	Gunnar
Karim	Håvard
Nadir	Marius
Omar	Morten
Sharif	Petter
Zahid	Ragnar
Wahib	Vidar

APPENDIX C: Cognitive attitude scale

Cognitive attitude scale towards Arab immigrants (Nordtug, 2008)

1. Det er naturlig å være skeptisk til folk fra araberland
2. Arabere er generelt for likestilling av kvinner og menn. R
3. Jeg ville aldri stemt på en araber for et politisk verv.
4. Arabere og etnisk norske vil kunne jobbe bra sammen selv om de har forskjellige verdier. R
5. Norsk kulturliv kan tjene på innflytelse fra araberes rike kulturhistorie. R
6. Politiet bør være spesielt oppmerksomme på arabere pga. fare for terrorisme
7. Det er bra for det norske demokratiet at arabere i Norge er politisk aktive. R
8. Ulike arabiske og norske familieverdier gjør integrering vanskelig
9. Arabisk påvirkning på Norge er positivt for mangfoldet. R
10. Arabiske verdier gjør integrering i det norske samfunnet vanskelig.
11. Arabisk syn på kvinners og menns plass i samfunnet gjør integrering av arabere vanskelig
12. Norsk identitet vil bli svekket på grunn av påvirkning fra arabiske innvandrere
13. Innvandringspolitikken bør være spesielt streng for personer fra araberland
14. Arabiske innvandrere er ofte involvert i kriminalitet
15. Arabiske innvandrere er en byrde for sosialvesenet vårt
16. For å bli akseptert, bør arabiske immigranter love å tilpasse seg våre skikker og kultur
17. Arabere er en framtidig trussel mot Norge
18. Arabere kan ikke vente seg respekt i Norge, når de ikke respekterer kristne i deres egne land

Svaralternativ:

Veldig uenig	-	Uenig	-	Verken/eller	-	Enig	-	Veldig enig
1		2		3		4		5

R = reversed