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# Predicting Private and Public Helping Behaviour by Implicit Attitudes and the Motivation to Control Prejudiced Reactions

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In press: *British Journal of Social Psychology*

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Abstract

The role of individual differences in implicit attitudes toward homosexuals and motivation to control prejudiced reactions (MCPR) in predicting private and public helping behaviour was investigated. After assessing the predictor variables, 69 male students were informed about a campaign of a local gay organization. They were provided with an opportunity to donate money and sign a petition in the presence (public setting) or absence (private setting) of the experimenter. As expected, more helping behaviour was shown in the public than in the private setting. But while the explicit cognitive attitude accounted for helping behaviour in both settings, an implicit attitude x MCPR interaction accounted for additional variability of helping in the public setting only. Three different mediating processes are discussed as possible causes of the observed effects.

Keywords:

Prejudice control, Implicit, Stereotypes, Implicit Association Test, Prosocial behaviour

# Predicting Private and Public Helping Behaviour by Implicit Attitudes and the Motivation to Control Prejudiced Reactions

In the last decade, a large number of studies have investigated the relationship between implicit measures of attitudes and behaviour (Fazio & Olson, 2003). Predominately it has been shown that implicit attitudes, or automatically activated evaluations, can predict behaviours that are either difficult to control, such as nonverbal behaviours, or that tend not to be monitored consciously. Such "behavioural leakages" (cf. Dovidio, Kawakami, Johnson, Johnson, & Howard, 1997; McConnell & Leibold, 2001) and especially nonverbal cues play an important role in the disclosure of interpersonal attitudes and emotions (e.g., Argyle, Alkema, & Gilmour, 1971) and can therefore be considered as relevant features in interpersonal communication. However, predicting deliberate supportive, integrative, or discriminative behaviours toward members of stigmatized social groups might be of even higher practical relevance. This research aims to investigate the influence of implicit and explicit attitudes on realistic behaviour toward a stigmatized out-group in different ecologically valid social situations.

Additional factors such as person and situation variables have been shown to moderate the relationship between implicit and explicit attitudes and behaviour. With regard to prejudice-relevant behaviour, the Motivation to Control Prejudiced Reactions (MCPR) might be regarded as the most relevant person variable (e.g., Dunton & Fazio, 1997; Fazio, Jackson, Dunton, & Williams, 1995; Plant & Devine, 1998) whereas the privacy or publicity of behaviour might be regarded as the most relevant situational cue that is likely to influence prejudiced behaviour (e.g., Schlenker, Britt, & Pennington,

1996).

The present research focuses on the joint effects of person and situation variables that may modify the relationship between implicit attitudes as assessed by the Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998) and prejudice relevant interpersonal behaviour such as helping. The present study extends existing research by combining an individual difference perspective on attitudes and prejudice control motivation with a classical experimental manipulation of the social situation. A range of objective and ecologically valid behaviour measures is used as an indicator of prejudiced behaviour. More specifically, we will test whether the relationship between implicit attitudes toward homosexuals and the willingness to support a local gay organization is moderated by the motivation to control prejudiced reactions and the presence or absence of the experimenter.

*Predicting Behaviour by Implicit Attitudes*

Over the past few years, advances in attitude research have been strongly influenced by the growing interest in automatically activated or implicit attitudes that are assessed by indirect, mostly latency-based methods, as opposed to the traditional use of direct self-report measures of explicit attitudes. The covariation between implicit evaluations, assessed by the IAT or affective priming procedures, and explicit evaluations tapped by direct measures such as rating scales, are substantial but low (for reviews see Blair, 2001; Hofmann, Gawronski, Gschwendner, Le, & Schmitt, 2005). Although there is some disagreement on whether implicit and explicit attitudes should be considered as fundamentally different types of attitude (e.g. Greenwald et al., 1998; Wilson, Lindsey, & Schooler, 2000), authors generally agree that explicit attitude measures are more subject to motivational influences, social desirability biases,

normative pressures, or self-presentational concerns (e.g. Fazio & Towles-Schwen, 1999; Strack & Deutsch, 2004; Wilson et al., 2000; Wittenbrink, Judd, & Park, 1997). Accordingly, implicit attitudes have repeatedly been found to predict behaviours that are less susceptible to motivational influences either because they are difficult to control or because they do not obviously reflect an attitude. Implicit measures of prejudice have been shown to correlate with behaviour ratings of interaction partners (i.e. friendliness and interest, Fazio et al., 1995; but see also Sekaquaptewa, Espinoza, Thompson, Vargas, & von Hippel, 2003), and with objective behaviour codings (e.g. abruptness or curtness of participant's responses, McConnell & Leibold, 2001; duration of visual contact, rate of eye-blinking; Dovidio et al, 1997; Dovidio, Kawakami, & Gaertner, 2002; Lemm, 2001). Furthermore, implicit, but not explicit attitudes toward an obese woman predicted how far participants chose to sit from her (Bessenoff & Sherman, 2000). In summary, there is extensive empirical evidence for the notion that implicit attitudes predict spontaneous behaviour as well as deliberate behaviours if the evaluative implications of this behaviour are not salient.

*Motivation to Control Prejudiced Reactions as an Individual Disposition*

Research from an individual differences perspective on MCPR has revealed that implicit attitudes are more closely related to explicit attitudes if individuals are not motivated to control prejudiced behaviour (Fazio et al., 1995, Experiment 4; Dunton & Fazio, 1997; Banse, Seise, & Zerbes, 2001; Gawronski, Geschke, & Banse, 2003; Akrami & Ekehammar, 2005). But if the dependent variable consists of a judgment of the quality of an essay written by an outgroup member (Jackson, 1998), or an impression formation task of a member of a stigmatized group (Gawronski et al., 2003), no moderation effects of MCPR have been found. In both cases, the authors explain this

by the fact that participants were not aware of the racial implications of the task. In contrast, Towles-Schwen and Fazio (2003) found that their participants' degree of concern with acting in a prejudiced way moderated the relationship between implicit attitudes and anticipated comfort while interacting with a Black person in unscripted situations (i.e. situations in which patterns of interaction vary from person to person), but not in scripted situations (i.e., situations in which behaviour is highly restrained). And Olson and Fazio (2004) found the MCPR to moderate the relationship between automatically activated racial attitudes and trait inferences made of Blacks compared to matched Whites. To summarize, a chronic motive to control for prejudiced reactions has reliably been found to moderate the relationship between implicit and explicit attitudes. However, findings of an analogue moderator effect for deliberate behaviour other than self-reported attitudes seem to be quite rare. This raises the question of whether a self-reported attitude can in fact be considered as a typical example of deliberate prejudice-relevant behaviour, and whether it can be generalized to other types of deliberate behaviour.

*Situational Factors and Prejudiced Behaviour*

Situational factors can affect prejudice-relevant behaviour or behavioural intentions by making social norms salient. For example, in many public social contexts prejudiced behaviour is considered to be inappropriate, hence the probability of discriminatory behaviour is likely to decrease. Although public social contexts could in principle also foster prejudiced behaviour if the public would overtly share prejudiced attitudes, this is normally not the case in psychological field or laboratory studies. Here the manipulation of the presence of an audience is used as a standard procedure for eliciting self-presentation concerns (Schlenker et al., 1996). The presence of another

person bears the possibility that behaviour has to be justified, therefore social norms are more salient, and people tend to display more socially desirable behaviour in public than in private contexts.

Despite the amount of research on the influence of social context on stereotype application (Kunda & Spencer, 2003), to the best of our knowledge situational factors have not yet been investigated as potential moderators of the relationship between implicit attitudes and deliberate behaviour. Although Lemm (2001) has used a private and a public explicit attitudinal response, and also assessed implicit attitudes, her study does not report whether the privacy of the situation moderated the relationship between implicit and explicit attitudinal measures.

*The Interplay of Situational and Dispositional Factors on Prejudiced Behaviour*

In the present study, we aim to assess the joint effects of person and situation factors on the relationship of attitudes and behaviour. On the one hand, we assess individual differences in the motivation to control prejudiced reactions, and on the other we experimentally manipulate situational cues to control prejudiced reactions by the absence (private setting) or presence (public setting) of an experimenter who asks for support for a discriminated outgroup. This study may also be the first attempt to investigate the interplay of attitude-related person variables and situation variables on deliberate prejudiced behaviour.

If we assume that the motivation to control prejudiced reactions and the manipulation of the privacy-publicity of the situation have an effect on deliberate behaviour, there are three theoretically interesting types of joint effects[1]: (1) additive, (2) interactive amplificatory, and (3) interactive compensatory. These three possibilities will be briefly outlined in the following:

(1) The Additive Model: MCPR and the social situation have an additive effect, but no interaction, on prejudiced behaviour. This model predicts that appropriate situational factors such as the presence of the experimenter enhance the motivation to react unprejudiced irrespective of the individual level of MCPR. Thus, the effects of the two sources simply add up at all levels of MCPR and in both settings.

(2) The Amplification Model: MCPR and the social situation interact in a synergistic manner, such that appropriate situational cues intensify the effect of individual differences in MCPR. This model postulates that the effect of the public situation more strongly affects those individuals who have a stronger motivation to control prejudiced reactions (e.g., these individuals may react more sensitively to environmental cues that hint to prejudice relevant situations). Individual differences in motivation moderate situation effects in such a way that with increasing MCPR people become more aware of the situation-bound prejudice-related implications of their behaviour.

(3) The Compensatory Model: MCPR and the social situation interact in a disjunctive compensatory manner, such that the public setting results in the levelling off of pre-existing personal differences of prejudice control. This model assumes that individuals who are more concerned about their possibly prejudiced reactions moderate their behaviour independently of situational factors. Individuals who are in general not eager to behave unprejudiced, however, react more strongly to situational cues indicating that prejudiced behaviour would be inappropriate. Hence, individual differences in motivation moderate situation effects in that strong MCPR compensates for a lack of publicity, or vice versa: publicity compensates for a lack of motivation. In other words: With increasing motivation to control prejudiced reactions external factors

become less important (Devine, Monteith, Zuwerink, & Elliot, 1991; Monteith, Devine, & Zuwerink, 1993; Plant & Devine, 1998; Devine, Plant, Amodio, Harmon-Jones, & Vance, 2002), and with stronger situational pressure motivation becomes less important.

*Hypotheses*

In sum, our hypotheses are as follows:

(1) Due to increased salience of social norms we expect more socially desirable behaviour in a public setting, and hence more helping behaviour in favour of a gay organisation in the presence than in the absence of an experimenter.

(2) If self-reported attitudes are typical examples of deliberate prejudice-relevant behaviour, we expect a positive relationship between explicit attitudes toward homosexuality and helping behaviour. Furthermore we expect MCPR to moderate the relationship between implicit attitudes and helping behaviour in the same way as has been extensively shown for explicit attitudes. The helping behaviour of individuals with a weak MCPR should correspond to their implicit attitude, whereas for individuals with a strong MCPR the implicit attitude should not be predictive of helping behaviour, or the relationship could even reverse.

(3) We want to explore whether the general moderation effect is influenced by the social setting. According to the three theoretical models outlined before, we expect that a private versus a public social setting increases the effect of prejudice control either (1) in an additive way (*no* setting by implicit attitude by MCPR interaction), (2) in an amplifying way by intensifying individual differences of prejudice control (three-way interaction, implicit attitude by MCPR interaction stronger in public setting), or (3) in a compensatory way by levelling out individual differences of prejudice control (three-way interaction, implicit attitude by MCPR interaction weaker in public setting).

## Method

### *Overview*

As it is a socially sensitive topic, we chose attitudes toward homosexuality as the attitude domain. When this study was conducted there was a political debate in Bern (Switzerland) on whether the *Homosexuelle Arbeitsgruppen Bern* (*hab*), a local gay organization that provides professional advice, runs a meeting place, and publishes a gay-lesbian calendar and club journal, should continue to receive public funds to finance its activities. In order to counter a possible cessation of public funding the *hab* had undertaken various types of action. For example, they had started to collect signatures for a supportive petition and had been collecting donations. We used this authentic material for our experiment.

Under the title "The Development of New Attitudinal Measures Towards Homosexuality" we conducted a study that assessed implicit and explicit attitudes towards gay persons as well as the motivation to control prejudiced reactions (MCPR). Furthermore we included a behavioural measure of support towards a gay organization: At the end of the study, the participants came across the *hab*'s plea for funding and we could assess their reactions in an unobtrusive way.

Previous evidence had shown the general level of discrimination against gays to be relatively low in Switzerland (Gabriel & Banse, 2006), but in general heterosexual men show more negative explicit (see Kite & Whitley, 1996, for a review) and implicit (Banse et al., 2001) attitudes than women. Therefore we restricted our student sample to male participants to maximise variability and to avoid ceiling effects. Although heterosexual men show more negative attitudes towards gay men than towards lesbians

(Whitley & Kite, 1995), we decided to use an implicit measure of attitudes towards both gay and lesbian homosexuality. This general Homosexuality-IAT had been successfully used earlier (Banse et al., 2001), and it is conceptually consistent with the critical dependent behaviour measures of this study that tapped support for an organization of both gay men and lesbians.

*Participants*

A total of 79 male students aged 19 to 42 years ($M$ = 24.8; $SD$ = 4.1) participated in the study. Ten participants had to be excluded from the sample, because they did not describe themselves as unambiguously heterosexual ($N$ = 5), because of technical problems with the computer ($N$ = 3), because of an outlier value (> 3 $SD$) in the affective attitude scale ($N$ = 1) or because of an excessive error rate of 50% in the IAT procedure ($N$ = 1). From the remaining sample of 69 participants, 28 (40.6 %) were recruited from the introductory psychology participant pool at the University of Bern and received course credits for their participation, 17 (24.6 %) were advanced students of psychology, 23 (33.3 %) were students of other subjects and one (1.4 %) was a high school student. They were all contacted by fliers and posters on campus, or were recruited through acquaintances of the experimenter.

*Procedure*

Subjects participated individually. Firstly, the procedure consisted of administering implicit (IAT) and then explicit (self-report) measures. For explorative purposes a second version of the Homosexuality-IAT was run after administering the explicit measures. Across all analyses, the results of both IATs were virtually identical. However, for the sake of conceptual clarity we only report the results of the first IAT, because for this measure any transfer effect or contamination by explicit measures can

be excluded. All measures were completed on a Pentium PC with a 16in. (40 cm) monitor set up at a viewing distance of about 20in. (50 cm). After working through the IATs and questionnaires, the experimenter thanked the participants, briefly explained the various measures, and handed them an information sheet. Before the participants left, the experimenter drew their attention to the plea of the *hab*. He described the activities of the *hab* and explained their political and financial situation. He then informed them about the different actions the *hab* was planning to take, handed out information material, the petition list and enrolment lists (to be signed by participants willing to provide further support) and pointed at a donation box, telling the participants that any contribution would be welcome. The experimenter then either left the room (private setting) or stayed in the room (public setting). To keep the private setting "private", the *hab* had printed single-petition forms with envelopes (in addition to the standard signature lists). The participants were randomly assigned (by coin flip) to the experimental conditions, 36 participated in the public and 33 in the private condition. After the participants had left the room the petition lists, the single petition forms, and the donation box were checked.

*Measures*

*Homosexuality-IAT.* The Homosexuality-IAT was identical to that used in the study by Banse et al. (2001). The attribute dimension of the IAT was composed of a word-based evaluative decision task and the target dimension of a picture-based homosexual-heterosexual classification task. For the evaluative decision task, 40 words with positive or negative valence had to be classified as *good* or *bad*. For the homosexual-heterosexual classification task, colour pictures either showing allegedly romantic mixed gender couples (10) or same gender couples (5 male, 5 female) had to

be classified as *heterosexual* or *homosexual*. The IAT consisted of five discrimination tasks: (1) Object discrimination task (heterosexual – homosexual, 40 trials), (2) Attribute discrimination task (good – bad, 40 trials), (3) First combined task (heterosexual/good – homosexual/bad, 120 trials), (4) Object reversal (homosexual – heterosexual, 40 trials), (5) Second combined task (homosexual/good – heterosexual/bad, 120 trials). Both classification tasks in the combined blocks (blocks 3 and 5) were presented in alternating succession. Because the IAT was used as an independent variable, the procedural details such as the (random) order of trials or the presentation order of the combined tasks were kept constant across participants to avoid any confound of procedural and person effects (see Banse et al., 2001).

*Explicit measures.* Attitudes toward homosexuality were assessed using a two-dimensional scale by Seise, Banse, and Neyer (2002), consisting of a cognitive attitude scale (18 items, $\alpha = .82$) and an affective attitude scale (18 items, $\alpha = .89$). The cognitive attitude scale consisted of positive and negative statements about homosexuality (e.g., *Female homosexuality is a sickness*) or statements describing what should or should not be allowed for gay men and lesbians (e.g., *Gay men should not work with children or adolescents*) that were answered using a 5-point agreement scale. The affective attitudes scale contained items describing situations (e.g., *I learn that the teacher of my son is gay*) or events (e.g., *Nearby two lesbians are kissing each other*) related to homosexuality. The answer format was a 5-point affective reaction scale (*I would feel ...* 1 = *very uncomfortable* to 5 = *very comfortable*). For both scales answers were (re)coded in such a way that higher values reflected more positive attitudes towards homosexuals. Although both scales allow separate scoring for attitudes towards

lesbians and gays, only a general attitude towards homosexuality score was used in accordance with the aims of the study.

The sexual orientation of participants was assessed using two items tapping sexual identity and sexual behaviour (*How would you describe yourself concerning your sexual identity/sexual behaviour?).* Both questions had to be answered on a five-point rating scale ranging from 1 = *exclusively heterosexual* to 5 = *exclusively homosexual* ($\alpha$ = .91). Only individuals whose mean score was no larger than 2 were included in the sample.

The motivation to control prejudiced reactions (Banse & Gawronski, 2003) was assessed using a German adaptation of the Motivation to Control Prejudiced Reactions Scale from Dunton and Fazio (1997). Unlike the original scale the German adaptation contains items referring to minorities in general and has a one-factorial factor structure that closely parallels the subfactor "concern with acting prejudiced" of the Dunton and Fazio MCPR-Scale. The scale has been shown to essentially tap the internal (and not external) source of motivation (see Plant & Devine, 1998, p. 815; for the German adaptation see Study 2 in Hofmann, Gschwendner, & Schmitt, 2005). The items had to be answered on a five-point rating scale ranging from 1 = *absolutely wrong* to 5 = *absolutely right*. In the present sample, the internal consistency was sufficient ($\alpha$ = .75).

*Data preparation*

*IAT.* Employing the improved algorithm suggested by Greenwald, Nosek, and Banaji (2003), all 120 trials (including 40 practice trials) of each of the combined task sequences (cf. Measure section: Blocks 3 and 5) were used for computing IAT scores. Error latencies were replaced with block means plus 600ms (error penalty). IAT scores were computed as standardized difference scores between the mean latencies in the two

combined task sequences (homosexual/good and heterosexual/bad block minus homosexual/bad and heterosexual/good block, divided by the pooled *SD* of latencies). Thus, positive difference scores indicate more positive implicit evaluations of homosexuality. Internal consistency was determined by calculating IAT difference scores based on the first (trials 1 to 40), second (trials 41 to 80), and third (trials 81 to 120) triple of the combined task blocks. The IAT reached satisfactory consistency ($\alpha$ = .78).

## Results

### *Helping Behaviour*

Nearly all participants (65 or 94%) signed the petition, 39 (56.5%) agreed to provide further support, whilst only 2 (3%) asked for more information about the organization. Money was donated by 14 participants (20%), the amounts ranging from 0.40 to 8.75 Swiss Francs (about .30 to 6 US Dollars) with $M$ = 3.63 and $SD$ = 2.08. Only 2 (6%) subjects donated money in the private condition. Due to this low base rate of donating money, it did not seem appropriate to use the amount as the sole dependent variable. Instead each of the measures was z-transformed and aggregated to an index of helping behaviour. For the three dichotomous measures this standardizing means that a helping (or non helping) reaction is weighted by the total amount of helpers. Signing the petition, for example, results in a standardized score of $z$ = .26 whereas agreeing to provide further support scores $z$ = .86, as less participants agreed to provide further support than signed the petition. Thus the different behavioural reactions are weighted by their frequency of occurrence – rarely shown reactions are more strongly weighted than frequently shown reactions. Scale analysis showed that the asking-for-more-information measure did not add any information to the average measure. Therefore this

variable was dropped, leading to a moderate internal scale consistency of $\alpha = .45$ for the composite index of the remaining three behaviours. Although the consistency is relatively low the aggregation is justified nevertheless because the three coded behaviours constitute the latent variable "helping" but do not need to co-occur. According to Bollen and Lennox (1991, p. 306f) an aggregate of such causal indicators (i.e., indicators that determine a person's level of "helping" but not the reverse) can be valid even in cases in which internal consistency is low. All analyses reported were also conducted using each of the three behaviour indicators separately. The pattern of results was virtually identical.

As expected, the manipulation of the social situation had a strong influence on the amount of helping behaviour; participants were more supportive in the public than in the private setting ($M_{public} = .32$, $M_{private} = -.34$; $t\ (67) = -4.46$, $p < .01$). This difference was not due to unequal variability of the behaviour index in both situations ($SD_{private} = .58$, $SD_{public} = .64$, $F\ (1,67) < 1$).

*Zero-Order Correlations*

The intercorrelations and the descriptive statistics of all implicit and explicit measures as well as the behavioural measures are reported in Table 1. The two explicit attitude measures correlated moderately with each other ($r = .38$, $p < .01$). The correlations between the implicit and the explicit attitudes were only slightly lower (cognitive subscale: $r = .32$, $p < .01$; affective subscale: $r = .26$, $p < .05$).

The MCPR-scale showed a substantial correlation with the cognitive ($r = .50$, $p < .001$) but not with the affective ($r = .11$, *n.s.*) scales. The significant difference between those two correlations ($z = 2.45$, $p = .01$; tested using Fisher's *r*-to-*Z* transformation) suggests that agreement with specific "political" statements about things

that homosexuals should or should not be allowed to do measured in the cognitive attitude scale are more strongly related to general statements about how to behave towards members of stigmatized groups than the more private, uncontrollable affective reactions tapped by the affective scale. Out of all the attitude measures, only the explicit cognitive scale showed a significant zero-order correlation with helping behaviour ($r$ = .32, $p < .01$). This result reflects the different nature of the two attitude scales. Individual differences on the cognitive attitude scale (i.e., equal rights for homosexuals) predicted support for a political plea of homosexuals, whereas affective attitudes (i.e., the affective reaction to imagined displays of homosexual behaviour) did not covary with support.

*Moderator Effects of the Motivation to Control Prejudiced Reactions*

To test whether the MCPR-Scale moderates the relationship between implicit and explicit attitudes, hierarchical multiple regression analyses were conducted. In a first step, the z-transformed implicit measure and the z-transformed scores of the MCPR-Scale were entered into the regression equation. In the second step the cross-product of the z-transformed IAT- and MCPR-Scores was entered. This procedure results in the "raw" regression coefficients being interpretable as the standardized beta-coefficients (see Cohen, Cohen, West, & Aiken, 2003, p. 283). Hierarchical regressions were separately conducted with explicit cognitive and explicit affective attitudes as criteria. The interaction term revealed a significant regression coefficient for the explicit cognitive ($\beta$ = -.10, $p < .01$) and a marginally significant coefficient for the explicit affective ($\beta$ = -.06, $p$ = .06) attitude scales. To illustrate the interaction, Figure 1 shows the regression of explicit cognitive and explicit affective attitudes on implicit attitudes for two levels of motivation to control prejudiced reactions (- 1 *SD*, + 1 *SD*). Only for

participants with a weak motivation to control prejudiced reactions was the IAT positively related to differences in explicit attitudes. For those with a strong motivation, however, implicit and explicit attitudes were unrelated.

*Prediction of Helping Behaviour in Two Social Settings*

The zero-order correlations between helping behaviour, attitude measures and MCPR are reported separately for both social settings in Table 2. Neither the implicit attitudes nor the MCPR-Scale showed significant correlations to helping behaviour in either of the two social settings. The explicit cognitive measure showed marginally significant positive correlations with helping behaviour in both settings (private $r = .29$, $p = .10$, public $r = .28$, $p = .10$). The explicit affective attitude measure did not relate to helping behaviour in either setting. Thus, the social setting did not moderate the explicit attitude-behaviour relationship.

To investigate whether and how the relationship between implicit attitude and helping behaviour is moderated by MCPR and the social setting, a hierarchical multiple regression analysis was conducted (Table 3). All variables were z-transformed and the cross-products of the z-scores were entered into the regression analyses. The residuals from the fitted model are normally distributed (KS $Z = 1.01$, $p = .26$).

In a first step the (effect-coded) experimental condition, IAT-Scores and MCPR-Scores were entered into the regression, accounting for 24% of the variance ($p < .001$). Entering the three two-way interaction terms in the second step accounted for an additional 4% ($p = .29$). Most importantly, entering the three-way interaction term (Social Setting x IAT x MCPR) in the third step accounted for another 5% of the variance ($p = .04$). Significant predictors of the final equation were the social setting ($\beta = .73$, $p < .001$), the IAT x MCPR interaction ($\beta = -.18$, $p = .025$), and the three-way

interaction (β = - .33, $p$ = .04). In order to test whether this pattern would substantially change when taking into account explicit attitudes, in a fourth step the cognitive attitude was entered ($\Delta R^2$ = 4%, $p$ < .05). In this analysis the cognitive attitude became a significant predictor (β = .48, $p$ = .045), but the triple interaction remained significant (β = -.37, $p$ = .02).

Additional hierarchical regression analyses were conducted to test whether the influence of the explicit attitude measures on helping behaviour is also moderated by MCPR or the MCPR x Social Setting interaction. As this was not the case, it can be noted that the explicit cognitive attitude and the MCPR x IAT interaction contributed independently to the prediction of helping behaviour. Thus, explicit attitudes are *not* simply equivalent to the implicit attitude x MCPR interaction; both are predictive over and beyond the other (see also Perugini, 2005).

To illustrate the triple interaction, Figure 2 shows the regression of helping behaviour on the implicit attitude for strong and weak motivation to control prejudiced reactions (-1 *SD*, + 1 *SD*) in the private and the public setting. As outlined before, helping behaviour was more frequent in the public than in the private setting. Furthermore it was expected that helping behaviour would be predicted by the IAT x MCPR interaction (in analogy to explicit attitudes). Although this effect reached significance it was qualified by a significant triple interaction (Social Setting x IAT x MCPR). As shown in Figure 2 the interaction pattern is not compatible with a simple moderation hypothesis. Contrary to this hypothesis, the relationship between IAT and helping behaviour is moderated by MCPR in the public but not in the private setting. Conducting the regression analysis for the private and public setting separately revealed a significant IAT x MCPR interaction for the public (β = -.35, $p$ = .02, $R^2$ = 18%) but

not for the private setting ($\beta = -.02$, $p > .50$, $R^2 = 7\%$). Thus the data seem only (if at all) compatible with the amplification model: The joint effect of individual differences in MCPR and IAT are amplified by the public social setting (i.e., the presence of the experimenter) as compared to the private setting.

The finding that the critical MCPR interaction in the regression of helping behaviour was found for the public context only should not be over-interpreted, as our dependent behaviour measure simply may not have been sufficiently sensitive to detect such an effect. Nevertheless, this possible limitation does not invalidate the fact that the IAT x MCPR interaction is stronger in the public setting.

In the public setting, individuals with a weak motivation to control prejudiced reactions show a positive relationship between implicit attitudes and helping behaviour. Individuals with a strong motivation to control prejudiced reactions, however, show a reverse relationship. Interestingly and contrary to intuition, more positive implicit attitudes in conjunction with strong egalitarian goals are related to *less* helping behaviour. The level of helping behaviour in individuals high in prejudice control with very positive implicit attitudes is almost as low as in individuals in the private condition. In other words, individuals with positive implicit attitudes and strong egalitarian goals did not show any extra helping behaviour due to the presence of the experimenter.

## Discussion

The goal of our study was to examine how implicit and explicit attitudes toward a discriminated outgroup influence behaviour, and how the joint effects of person and situational factors moderate the attitude-behaviour relationship. More specifically, we

assessed individual differences in the motivation to control prejudiced reactions as a person variable, and experimentally manipulated situational cues to control prejudiced reactions by the absence (private setting) or presence (public setting) of an experimenter.

The main results of the study can be summarized as follows: (1) The public social setting elicited significantly more helping behaviour than the private social setting; (2) Helping behaviour was predicted by the explicit cognitive (but not the explicit affective) attitude; (3) We replicated the well established finding that individuals with a low motivation to control prejudiced reactions show corresponding implicit and explicit attitudes, whereas individuals with a high motivation to control prejudiced reactions do not; (4) While the explicit cognitive attitude predicted the helping behaviour equally across both social settings, the interaction of MCPR and the implicit attitude predicted helping only in the public but not in the private setting. In the private setting neither implicit attitudes nor the motivation to control prejudiced reactions, nor their interaction were related to helping behaviour. In the public context, however, helping behaviour could be predicted by the interaction between implicit attitudes and the motivation to control prejudiced reactions. Most interestingly, as compared to the moderator effect of explicit cognitive attitudes, the interaction pattern was reversed for helping behaviour in the public setting: Individuals with the most pro-gay attitudes and the strongest prejudice control motivation showed the least helping behaviour for a gay organization.

With reference to the contribution of implicit attitudes to the prediction of deliberate behaviour we can state that under high situational demands (public setting), helping behaviour as a socially highly relevant behaviour probe is associated with

spontaneous evaluations: Positively if the internal motivation is low, and negatively if the internal motivation is high. Thus, the present study not only provides further evidence for the notion that spontaneous evaluations can influence overt and deliberate behaviour, but it also sheds some light on situational conditions that influence this relationship.

Given that there is little theoretical or empirical basis for deriving specific hypotheses about the joint effects of individual differences in prejudice control and the social setting on the attitude-behaviour relationship, three formal models were postulated and tested. The results show that the attitude behaviour relationship was in fact moderated by the interaction of social setting and prejudice control, supporting the notion of an amplification model in statistical terms (individual differences in MCPR are amplified). But from a theoretical point of view, the amplification model does not predict that individuals scoring low on MCPR will provide more help in the public setting than individuals scoring high in MCPR. In an attempt to better understand the underlying processes, we discuss three possible mediating processes that could at least partially account for the observed effects. The proposed mediating mechanisms are post-hoc explanations for the obtained results. These results are based on a single study with a relatively small sample size and should therefore not be over-interpreted. Future research needs to replicate the present results and to operationalize the postulated constructs and test their relevance for the observed effects. The following three mediating processes could be involved in producing the observed specific interaction effects: Publicity as cognitive load, feelings of guilt, and bias correction processes.

*Publicity as Cognitive Load*

Conceptualizing stereotypes as dominant or habitual responses, Lambert et al. (2003) recently linked the attitude-behaviour relationship to research on social facilitation and inhibition, i.e. the effect that the presence of others helps performance of well-learned skills or habitual responses (Zajonc, 1965) but interferes with performance of more difficult tasks (for a review see Monteil & Huguet, 1999). This reasoning leads to the counterintuitive prediction that public settings may intensify the impact of highly overlearned stereotypes on behaviour. Based on the results of two experiments, Lambert et al. (2003) concluded that the anticipation of a public setting increases cognitive load especially for those high in social anxiety. This in turn reduces the ability to control for (habitual) stereotypical responses. In this case, a public setting appears to have the ironic effect of impeding control of socially undesirable behaviour.

Applying this notion to the interaction of implicit attitudes and the motivation to control prejudiced reactions leads to the question of what to consider as a "habitual response". It seems plausible that implicit attitudes may reflect highly overlearned habitual responses. But in the long run, being internally motivated to correct for prejudiced spontaneous evaluations should make such a correction a habitual and hence less effortful response (e.g., Moskowitz, Gollwitzer, Wasel, & Schaal, 1999). Therefore, if a public situation binds cognitive capacity, this should hinder those low in internal motivation in controlling for the effects of implicit attitudes on overt reactions, rather than hindering those high in internal motivation in controlling prejudiced reactions. This notion can explain why the helping behaviour of individuals with a weak MCPR more strongly corresponds to their implicit attitudes in the public setting. However, this notion cannot explain why individuals with a strong MCPR show stronger over-compensation in the public compared to the private setting. In a first step to

experimentally test this explanation, it would be useful to show that a manipulation of cognitive load or another manipulation of deliberate processing capacity has similar effects on helping as the manipulation of the social setting in the present study.

*Feelings of Guilt*

We postulated that the public social setting fosters helping behaviour by rendering social norms more salient. In addition, the ongoing presence of the experimenter may have elicited an affective reaction such as guilt or discomfort that served as a mediator of helping behaviour (e.g. Devine, Monteith, Zuwerink, & Elliot, 1991; Monteith, Ashburn-Nardo, Voils, & Czopp, 2002): Those who were not motivated to control prejudiced reactions may have felt particularly uncomfortable being confronted with someone who obviously advocated gay matters, whereas those highly motivated to control prejudiced reactions may have felt guilty or uncomfortable when asked to support a gay organization only if their implicit attitude was negative. Those motivated to control prejudiced reactions and holding positive implicit attitudes did not have anything to feel guilty about: Being confronted with a person who seeks support for a prejudiced group (and who might even be himself a member of that group) left them in a rather neutral state, as he did not challenge any of their beliefs or thoughts. Accordingly, for individuals with a weak MCPR, as well as for those with a strong MCPR *and* a negative implicit attitude, helping that organization might serve to reduce feelings of guilt (cf. Harris, Benson, & Hall, 1975). In contrast, individuals with a strong MCPR and a positive implicit attitude would not need to relieve guilt feelings. However, this account cannot explain why, in the public setting, participants with a weak motivation to control prejudiced reactions show a behaviour that corresponds to

their implicit attitudes. Furthermore, such an explanation would imply that only the public but not the private setting elicited such an affective reaction.

For an empirical test of the influence of feelings of guilt as a mediator in a future experiment it would be necessary to directly assess guilt or other affective responses. Alternatively or additionally participants could be asked to report what motivated their behaviour.

*Bias Correction Processes*

According to the flexible correction model by Wegener and Petty (1997) people modify their social judgments in correspondence with their motivation and ability to identify and correct for perceived biases. Corrections work in the direction opposite to the perceived bias and in a magnitude commensurate with the perceived magnitude of bias. These processes may lead to over- as well as to under-correction according to the perceived strength of the bias. Applied to this experiment and assuming that the public but not the private setting renders the spontaneous evaluation and the MCPR salient, the interaction pattern can be interpreted as the result of correction processes in individuals with a strong MCPR. Although these individuals are motivated to control for prejudiced reactions and hold pro-gay implicit attitudes they may fear to appear too preferential toward gays and may therefore correct behaviour in the opposite direction. In contrast, individuals with a weak MCPR did not correct for perceived bias and acted in accordance with their implicit attitudes. To test this account it would be necessary to assess deliberate bias correction processes independently.

All three posthoc explanations are speculative. More research is needed to disentangle the quite complex interactions between personality factors, cognitive capacity, and specific social settings that moderate the relationships between attitudes

and behaviour toward stigmatised groups. With reference to the manipulation of the public-private dimension of the setting it can be stated that the presence of another person influences the activation and application of attitudes not (or not only) by providing a situational cue to control for prejudiced reactions.

Finally, further potential limitations of our results should be considered: In this study we did not differentiate between gays and lesbians as attitude objects. Neither the stimuli used for the IAT nor the behavioural measure (support for an organization of gay men and lesbians) allowed for this differentiation. Previous research on attitudes towards homosexuality indicates that heterosexual men hold more negative attitudes towards gay men than towards lesbians (cf. Whitley & Kite, 1995); future studies may observe even stronger effects by confining the scope to attitudes toward gay men only.

The behaviour indicator used here may have lacked sensitivity in picking up behaviour variability in the private setting. The possibility that other behavioural indicators would reveal that MCPR and implicit attitudes also play a role in private social settings cannot be excluded. However, this possibility does not invalidate the empirical finding that this interaction effect plays a more decisive role in the presence of another person.

To summarize, our results suggest that the social setting can substantially influence helping behaviour. More specifically, we found that in public settings not only social and personal behaviour norms but also pertinent implicit attitudes have influenced overt behaviour. Thus, for a better understanding of prejudiced behaviour it seems necessary to pay attention to the interplay of implicit and explicit personal as well as situational factors. The present study should be considered as a first and very

tentative step into that direction. More research is needed to shed light on this largely unchartered area.

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Footnotes

1 We are grateful to an anonymous reviewer who suggested these three types of interplay between MCPR and the situation.

Table 1

*Intercorrelations, Means, Standard Deviations, and Internal Consistencies of the Implicit and Explicit Measures (N = 69)*

| | 2 | 3 | 4 | 5 | *M* | *SD* | α |
|---|---|---|---|---|---|---|---|
| 1. IAT | .32** | .26* | .14 | -.01 | - 19 | .38 | .78 |
| 2. Explicit cognitive | -- | .38** | .50*** | .32** | 4.58 | .42 | .82 |
| 3. Explicit affective | | -- | .11 | .02 | 2.90 | .28 | .89 |
| 4. MCPR | | | -- | .15 | 3.59 | .42 | .74 |
| 5. Helping Behaviour | | | | -- | 0 | .69 | .45 |

*Note.* MCPR = Motivation to control prejudiced reactions. All measures are coded in a pro-gay direction.

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

Table 2

*Intercorrelations of Helping Behaviour with Implicit and Explicit Measures as a Function of the Social Setting*

| | *Private* (*N* = 33) | *Public* (*N* = 36) |
|---|---|---|
| IAT | -.05 | -.09 |
| MCPR | .25 | -.13 |
| Explicit cognitive | .29# | .28# |
| Explicit affective | -.01 | -.01 |

*Note.* MCPR = Motivation to control prejudiced reactions. All measures are coded in a pro-gay direction.

# $p < .10$.

Table 3

*Hierarchical Regression Analysis Summary for Social Setting, Implicit Attitude and Motivation to Control Prejudiced Reactions (MCPR) Predicting Helping Behaviour (N = 69)*

| Variable | β | *SE* | Δ $R^2$ |
|---|---|---|---|
| Step 1 | | | .24*** |
| Social setting [a] | .65 *** | .15 | |
| IAT | - .05 | .08 | |
| MCPR | .05 | .08 | |
| Step 2 | | | .04 |
| Social setting [a] | .69 *** | .15 | |
| IAT | -.06 | .08 | |
| MCPR | - .04 | .09 | |
| Social setting x IAT | .04 | .16 | |
| Social setting x MCPR | - .18 | .16 | |
| IAT x MCPR | - .10 | .07 | |
| Step 3 | | | .05* |
| Social setting [a] | .73 *** | .15 | |
| IAT | -.04 | .08 | |

Table 3 *(continued)*

*Hierarchical Regression Analysis Summary for Social Setting, Implicit Attitude and Motivation to Control Prejudiced Reactions (MCPR) Predicting Helping Behaviour (N = 69)*

| Variable | β | *SE* | Δ $R^2$ |
|---|---|---|---|
| MCPR | - .05 | .09 | |
| Social setting x IAT | .005 | .15 | |
| Social setting x MCPR | - .34 # | .17 | |
| IAT x MCPR | - .18 * | .08 | |
| Social setting x IAT x MCPR | - .33 * | .16 | |

[a] The social setting was coded as -.50 for the private and +.50 for the public setting.

# $p < .10$. * $p < .05$. **** $p < .001$.

## Figure Captions

*Figure 1.* Regression lines predicting explicitly measured attitudes as a function of IAT-scores and strong vs. weak MCPR for affective (left panel) and cognitive scale (right panel).

*Figure 2.* Regression lines predicting helping behaviour as a function of IAT-scores, strong vs. weak MCPR and private vs. public setting.

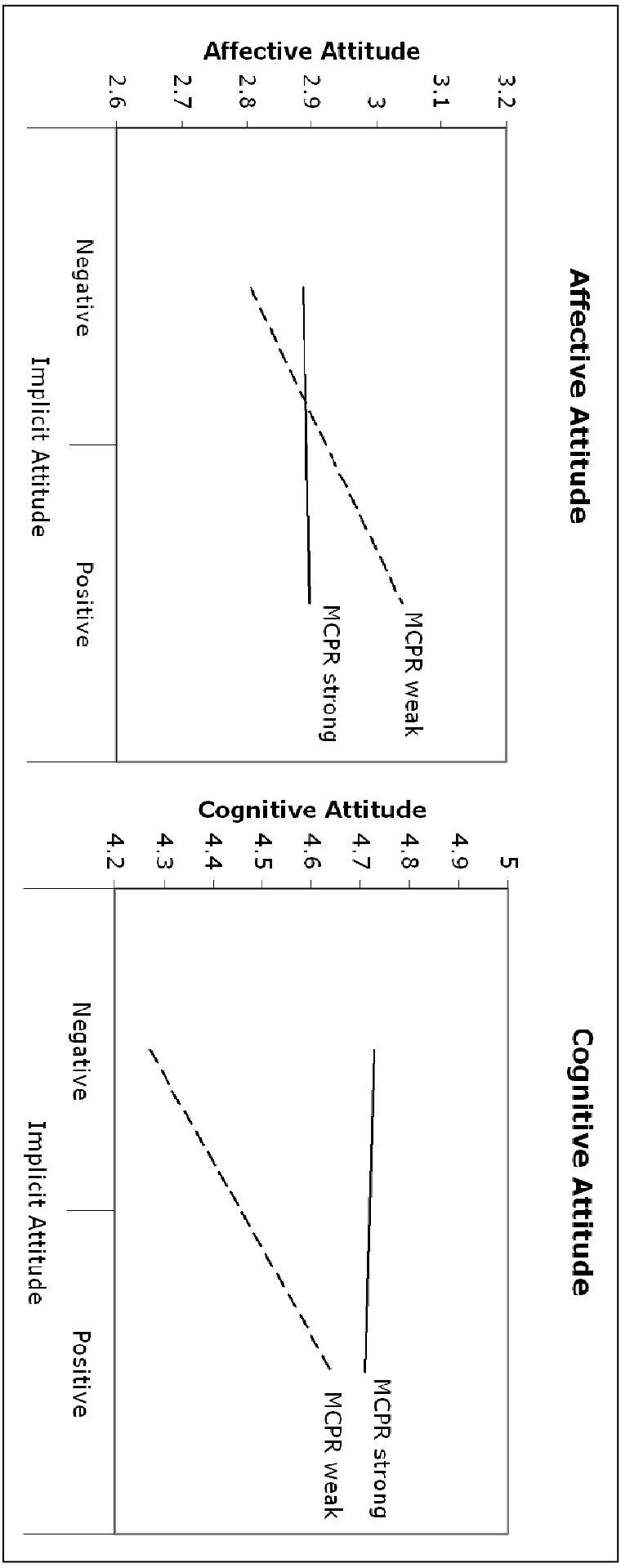
Affective Attitude
Affective Attitude
3.2
3.1
3
2.9
2.8
2.7
2.6
Negative
Positive
Implicit Attitude
MCPR weak
MCPR strong
Cognitive Attitude
Cognitive Attitude
5
4.9
4.8
4.7
4.6
4.5
4.4
4.3
4.2
Negative
Positive
Implicit Attitude
MCPR strong
MCPR weak

FIGURE #1

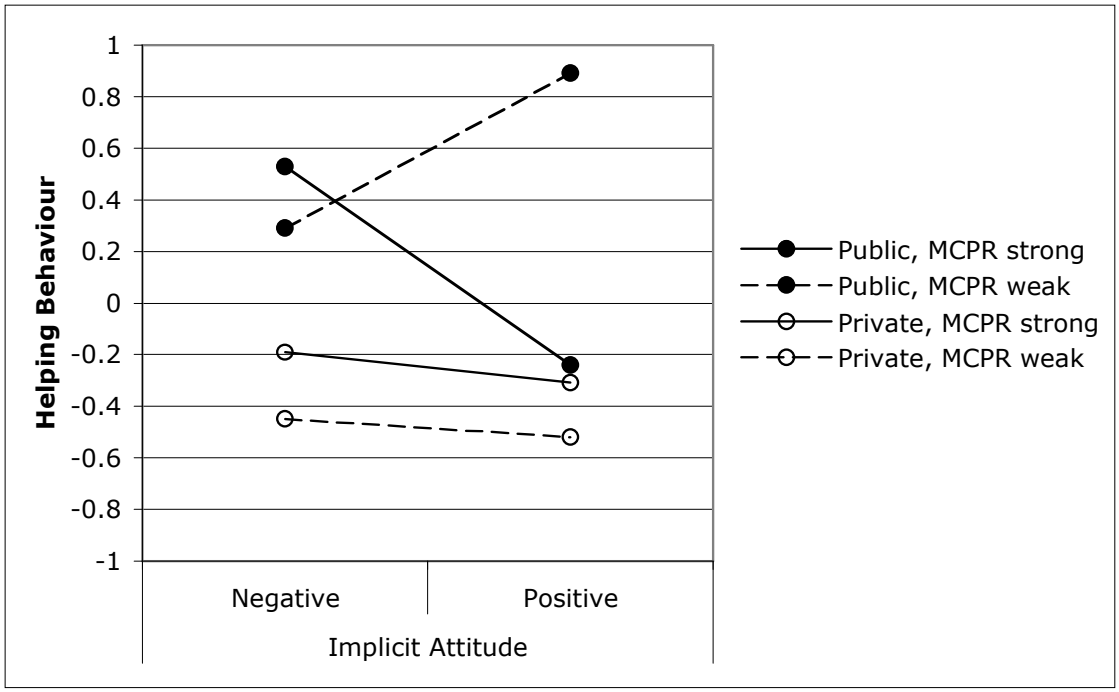
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
Helping Behaviour
Negative
Positive
Implicit Attitude
Public, MCPR strong
Public, MCPR weak
Private, MCPR strong
Private, MCPR weak

FIGURE #2