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# BASIC PERSONALITY TRAITS AS CORRELATES OF IMPLICIT PREJUDICE<sup>2</sup>

This study explores the relationship between "Big Five" personality dimensions and implicit prejudice towards two groups: (1) homosexuals and (2) elderly people. We employed the NEO PI-R personality inventory to register basic personality dimensions, the Implicit Association Test (IAT) to measure implicit prejudice, and a semantic differential and the Fraboni scale to assess explicit prejudice. Results of the correlation and multiple regression analyses indicated that implicit prejudice toward homosexuals was related to Openness to Experience, while implicit ageism was related to Agreeableness. More precisely, people who obtained lower scores on these personality dimensions were more likely to hold implicit prejudice towards members of these stigmatized groups. We demonstrated that the relationship between personality and implicit prejudice could not be reduced to the relationship of personality traits with the explicit measures of prejudice. We compared these findings with the previously obtained pattern of results for explicit prejudice measures and discussed their implications for a theoretical distinction between implicit and explicit prejudice constructs.

**Keywords**: implicit prejudice, homosexuals, ageism, personality dimensions, Implicit Association Test

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Implicit prejudices are most commonly defined as negative feelings and/or beliefs toward members of different social groups (e.g., ethnic minorities, religious groups, people with disabilities, etc.) that people usually hold without being aware of it (Olson, 2010). Most authors agree that they operate automatically, with little attention or control and that people are often unwilling or unable to acknowledge them (e.g. Banaji & Greenwald, 1994; Banaji, Lemm, & Carpenter, 2001; Olson, 2010; Pearson, Dovidio, & Gaertner, 2009). In this respect implicit prejudices are different from standard or explicit prejudices that people are usually aware of and able to control and report. Implicit and explicit prejudices also differ empirically, as evidenced by the results of meta-analytical studies demonstrating a low correlation between these constructs (Greenwald, Poehlman, Uhlmann, & Banaji, 2009; Hofmann, Gawronski, Gschwender, Le, & Schmitt, 2005).

Implicit prejudices are typically assessed via response latency procedures including the most widely used and empirically established implicit measurement procedure: the Implicit Association Test (IAT: Greenwald, McGhee, & Schwartz, 1998). Response latency procedures are based on the assumption that people are typically faster at categorizing groups of stimuli stored in memory that are similar in valence (e.g. "good" and "young people" or "bad" and "elderly people") compared to those that differ in valence (e.g. "good" and "elderly people" or "bad" and "young people" in an example of implicit ageism). The difference in response latencies for categorization of different groups of stimuli (i.e. different categorization tasks) represents an estimate of the level of implicit prejudice (e.g. "implicit ageism").

Different correlates of implicit prejudice have been studied so far including various forms of social discrimination (e.g. Neumann, Hulsenbeck, & Seibt, 2004) and nonverbal and verbal parameters of intergroup interaction (e.g. Dovidio, Kawakami, & Gaertner, 2002). In addition, researchers explored gender and age differences in different types of implicit prejudice (e.g. Nosek et al., 2007). Evidence accumulated so far indicates that implicit prejudice dominantly predicts spontaneous, while explicit prejudice predicts more deliberate forms of social judgement and behavior (e.g. Dovidio et al., 2002), although not all authors agree on this matter (see Oswald, Mitchell, Blanton, Jaccard, & Tetlock, 2013).

Surprisingly, the relation of implicit prejudice and personality constructs has not yet received much research attention. To our knowledge, only one study has tested this relation, relating two core personality dimensions – Openness to Experience and Agreeableness to a generalized factor of implicit prejudice (not related to any specific social group). The study found no significant relationship between these constructs (Bergh, Akrami, & Ekehammar, 2012). Bergh and associates (2012) concluded that the role of personality is greater in explaining explicit prejudice rather than implicit ones. A potential downside of the aforementioned study is that the authors used a principle component analysis to extract onegeneralized factor of implicit prejudice from several IAT prejudice measures. This method might have yielded a factor that at least partially reflected cognitive skill confound and method-specific variance (see Klauer & Mierke, 2005), masking

the effect of personality on implicit prejudice. Testing the relationship between personality dimensions and implicit prejudice toward specific social groups, as we intend to do in the present research, might yield different results. In addition, Bergh et al. employed only two out of the five core (i.e. Big five) personality dimensions. Hence, implicit prejudice correlations with other personality dimensions remain unexplored. As implicit prejudices have been shown to predict better spontaneous behavior than explicit prejudice (Dovidio et al., 2002), and personality traits are conceptualized as reflecting typical (spontaneous) behaviors (Knežević, Džamonja-Ignjatović, & Đurić-Jočić, 2004), one may actually expects a larger number of personality traits to be related to implicit prejudice than explicit.

Regarding self-report measures of prejudice, Sibley and Duckitt (2008) recently conducted a meta-analysis of the studies that explored the relationship between personality dimensions and different types of prejudice, and found that prejudice is primarily predicted by two dimensions: low Openness to Experience and low Agreeableness. These authors pointed out that most of the studies conducted so far have used self-reports to measure prejudice and personality. One disadvantage of such an approach is that content overlap between self-report measures of personality and prejudice might have artificially inflated their relationship. Sibley and Duckitt (2008) suggest that future studies should employ alternative measures (e.g., implicit measures) when reexamining this relationship in order to eliminate this possibility. Furthermore, studies done so far have mostly dealt with racism and the generalized factor of prejudice (e.g. Duriez & Soenens, 2006; Ekehammar & Akrami, 2003; Flynn, 2005). A wide range of different prejudice domains (e.g. prejudice toward homosexuals, people with disabilities, mentally ill, elderly people, etc.) is still waiting to be investigated.

On the one hand, there is solid evidence that explicit prejudices are related to certain aspects of personality (see Sibley & Duckitt, 2008). On the other hand, the pioneering work of Bergh and associates (2012) suggests that implicit prejudices are not related to personality. Is this another piece of evidence supporting the dissociation between implicit and explicit prejudice constructs? The answer to this question is difficult to provide, having in mind the scarcity of studies examining the relationship between implicit prejudice and core personality dimensions. Therefore, rather than dealing with a generalized implicit prejudice factor (as in the study by Bergh et al., 2012), this research aimed to examine the relationship between the Big Five personality dimensions and implicit prejudice toward two specific and relatively under-investigated groups. We conducted two studies in which we employed the NEO PI-R personality inventory to register basic personality dimensions and the IAT to measure: (1) implicit prejudice toward persons of homosexual orientation (Study 1) and (2) implicit prejudice toward elderly people (Study 2). In addition, we applied semantic differential (Study 1) and the Fraboni scale of ageism (Study 2) to measure explicit prejudice toward these groups.

## Study 1

#### Method

Participants and procedure. A total of 139 psychology students (12%) males), mean aged 20 years (SD = 2.38) took part in the research in exchange for course credit. The instruments were administered in three separate sessions. Personality measures were administered first, implicit prejudice measures second, and explicit prejudice measures last.

Instruments. Revised NEO Personality Inventory (Costa & McCrae, 1992, adapted to Serbian by Knežević, Džamonja-Įgnjatović, & Đurić-Jočić, 2004). Revised NEO-PI was employed in order to assess five basic personality dimensions - Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness. The instrument contains a total of 240 5-point Likert scale items. Each trait is represented by six facets, containing eight items.

Implicit Association Test (Greenwald et al., 1998). IAT was used to assess participants' implicit prejudice toward homosexuals (IAT-H, i.e. a version of IAT that was translated into Serbian language and adapted for measuring implicit prejudice toward homosexuals by Bjekić, Živanović, & Žeželj, 2012). The IAT target categories were GAY and STRAIGHT, and the attribute categories were GOOD and BAD. Stimuli for the gay-straight categories were photographs of homosexual and heterosexual couples kissing, while the stimuli for the good-bad categories were words that had prominent positive or negative affective valence (e.g. love, hate, etc.). Participants' task was to categorize either pictures or words into adequate categories. The measure of implicit prejudice toward homosexuals was calculated using the algorithm developed by Greenwald, Nosek, and Banaji (2003). The structure of the IAT-H and the IAT used in Study 2 can be seen in Appendix A.

Semantic differential scales (Crites, Fabrigar, & Petty, 1994). These scales were used in order to provide a measure of explicit prejudice towards homosexuals. The affective semantic differential scale (SDA-H) comprised eight bipolar items, while the cognitive scale (SDC-H) comprised seven bipolar items. All items were rated on a scale from 1 to 7 (1 indicating full agreement with the left adjective and 7 indicating full agreement with the right), and the total scores calculated as item averages (items can be seen in Appendix B). Higher scores correspond to the greater level of explicit prejudice. However, the cognitive and affective semantic differential scales were highly correlated (r = .72, p < .001), and a principal component analysis indicated that all items are loaded on a single factor (explaining 52% of total variance). Therefore, in subsequent analyses, an aggregated measure of explicit prejudice toward homosexuals (SD-H) was used instead of two separate ones.

#### Results

Table 1 shows means, standard deviations, distribution normality indices, and reliability coefficients for all variables used in Study 1. Measures that deviated significantly from distribution normality were normalized using Blom's normalization procedure. On the explicit level, participants showed no prejudice towards homosexuals and even demonstrated a positive attitude toward this group (t(138) = -4.08, p < .001). However, on the implicit level, a slight<sup>3</sup> level of prejudice was present (t(138) = 8.62, p < .001).

Both implicit and explicit prejudice measures were negatively correlated to Openness, while the explicit measure of prejudice towards homosexuals also correlated negatively with Agreeableness (Table 1). The implicit and explicit measures of the same construct were moderately positively correlated.

Table 1
Descriptive statistics and correlations between personality dimensions and implicit and explicit prejudice toward homosexuals

						Correl	ations
	Μ	SD	$Z_{_{ m sk}}$	$Z_{ m ku}$	α	SD-H	IAT-H
Neuroticism	90.64	29.25	1.48	-0.44	.94	008	135
Extraversion	113.68	22.82	-2.03*	-0.39	.89	135	.044
Openness	129.82	21.17	-1.36	-0.02	.89	256**	242**
Agreeableness	121.66	21.78	-1.41	-0.46	.89	349**	028
Conscientiousness	126.35	25.14	-2.87**	1.61	.93	.075	.132
IAT-H	0.30	0.41	1.94	0.26	.77	.249**	-
SD-H	3.71	0.84	-0.75	2.94**	.93	-	-

*Note.* IAT-H = implicit prejudice toward homosexuals; SD-H = average score measure of explicit prejudice toward homosexuals measured by semantic differential scales.

In order to address a possibility of predicting implicit prejudice based on personality traits, we performed a hierarchical multiple regression analysis. The dependent variable was the implicit prejudice towards homosexuals, and the explicit measure of the same construct was inserted as a predictor in step 1 of the analysis. Personality traits were entered in step 2 in order to determine whether they had an incremental effect on prediction. The results showed a marginally significant difference in  $\mathbb{R}^2$  from step 1 to step 2, indicating that personality traits do explain some specific aspects of implicit prejudice, unrelated to explicit measures

<sup>\*</sup> p < .05. \*\* p < .01.

 $<sup>^3</sup>$  The Project Implicit research group (2015) have offered benchmarks for a slight (.15), moderate (.35) and high (.65) IAT effect.

(Table 2). Although small, the  $R^2$  change was of the same magnitude for personality dimensions as it was for the explicit prejudice measure. When all predictors were included in the analysis (Step 2), the only two significant predictors were the explicit prejudice measure and Openness.

Table 2 Stepwise multiple regression analysis for predicting implicit prejudice towards ho-

Variable	Beta	$\Delta R^2$
Step 1		.062**
SD-H	.249**	
Step 2		.065†
SD-H	.220*	
Neuroticism	078	
Extraversion	.085	
Openness	221*	
Agreeableness	.058	
Conscientiousness	.046	

*Note.* Total  $F(6, 132) = 3.20**, R^2 = .13$ ; SD-H = average score measure of explicit prejudice toward homosexuals.

# Study 2

#### Method

**Participants and procedure.** Participants in Study 2 were a separate sample of 84 psychology students who agreed to participate in the research in exchange for course credit. The mean age of participants was 20 years (SD = 0.64) and 12 percent were males. Again, the instruments were administered in three sessions in the following order: personality measures, implicit prejudice measures, and explicit prejudice measures.

Instruments. Revised NEO Personality Inventory (Costa & McCrae, 1992, adapted to Serbian by Knežević et al., 2004). Revised NEO-PI was used in order to assess personality dimensions.

Implicit Association Test (Greenwald et al., 1998). IAT was used to assess participants' implicit prejudice toward elderly people, i.e. participants' ageism (IAT-A; translated to Serbian language and adapted for measuring implicit ageism in studies conducted by Ćirović & Pavlović, 2013; Pavlović & Ćirović, 2013). The

<sup>\*\*</sup> p < .01. \* p < .05. † p < .1.

IAT target categories were OLD and YOUNG, and the attribute categories were GOOD and BAD. Stimuli for the old-young categories were original and artificially aged (using a software application for face transformation<sup>4</sup>) photographs of young people, while the stimuli for the good-bad categories were affectively positive and negative words. Participants' task was to categorize either pictures or words into adequate categories and the measure of implicit attitudinal preference for young over elderly people was calculated using the algorithm developed by Greenwald, Nosek, and Banaji (2003). The structure of the IAT-A can be found in Appendix A.

*Fraboni scale (Fraboni, Saltstone, & Hughes, 1990)*. This scale was used for measuring prejudice toward elderly persons and aging. The scale comprises 29 5-point Likert scale items from three behavioral categories: antilocution (e.g. "Many old people just live in the past."), avoidance (e.g. "I would prefer not to live with an old person.") and discrimination (e.g. "Old people should find friends their own age."). The total score is calculated as the sum of items with a theoretical range from 29 to 145. Higher scores correspond to a higher level of prejudice toward elderly. Reliability of the scale was satisfactory ( $\alpha = .74$ ).

#### Results

Means, standard deviations, distribution normality indices, and reliability coefficients for all measures used in Study 2 are given in Table 3. The distribution of Conscientiousness was negatively skewed, indicating high levels of conscientiousness in the sample. This variable was normalized. The IAT effect was positive, indicating a moderate level of prejudice towards elderly people (t(83) = 12.20, p < .001). The Fraboni explicit measure, on the other hand, showed that our participants perceived elderly people in a positive way (t(83) = -3.35, p < .001).

The implicit and explicit prejudices towards the elderly were not correlated (Table 3). The only personality trait that was (negatively) related to implicit prejudice was Agreeableness, while Conscientiousness was correlated negatively with explicit prejudice (Table 3).

<sup>&</sup>lt;sup>4</sup> The application is available on website faceresearch.org and the authors are Lisa DeBruine and Ben Jones from the Face Research Lab at the University of Glasgow Institute of Neuroscience and Psychology.

Table 3 Descriptive statistics and correlations between personality dimensions and implicit and explicit prejudice toward the elderly

						Correla	tions
	М	SD	ZSk	Zku	α	Fraboni score	IAT-A
Neuroticism	92.40	28.85	0.93	-1.16	.93	.104	.024
Extraversion	111.82	23.63	-1.44	-0.89	.89	.038	.019
Openness	133.52	18.13	-1.33	0.08	.85	209	118
Agreeableness	118.35	19.87	-1.58	-0.45	.86	204	227*
Conscientiousness	123.75	23.75	-2.14*	1.18	.91	229*	.187
IAT-A	0.62	0.46	0.82	0.71	.68	.014	-
Fraboni score	83.27	10.19	-1.57	0.05	.74	-	-

*Note.* IAT-A = implicit prejudice toward elderly.

As there was no significant correlation between implicit and explicit prejudice measures, we entered both personality traits and explicit prejudice in the same step of the multiple regression analysis for predicting implicit prejudice towards elderly people. Although Agreeableness and Conscientiousness as predictors reached marginal significance ( $\beta$  = -.24, p = .058 for Agreeableness and  $\beta$  = .22, p = .063 for Conscientiousness), the overall model was not significant (F(6,77) = 1.47, p = .201).

#### General discussion

The aim of this study was to explore the relationship between the Big Five personality dimensions and implicit prejudice toward two specific groups: homosexuals and elderly people. We found that implicit prejudice toward homosexuals were related to Openness to Experience while implicit ageism was related to Agreeableness. More precisely, persons with higher Openness to Experience showed more positive attitudes toward homosexuals than their less open peers, and higher Agreeableness was related to more positive attitudes toward the elderly.

These findings are comparable with the results of Sibley and Duckitt's (2008) meta-analysis that explicit prejudices are related to low Agreeableness and low Openness to Experience. However, why implicit ageism was related exclusively to Agreeableness (and not Openness to Experience), and implicit prejudice towards homosexuals to Openness to Experience (and not Agreeableness) remains an open question.

<sup>\*</sup> *p* < .05. \*\* *p* < .01.

Openness to Experience and Agreeableness are considered the most relevant traits for determination of different types of social attitudes. People scoring high on Openness to Experience are typically progressive, untraditional, and tolerant toward diversity (Đurić-Jočić, Džamonja-Ignjatović, & Knežević, 2004). Based on this description, they would also be likely to hold progressive and positive social attitudes toward different minority groups, including homosexuals. On the other hand, persons high in Agreeableness tend to be generous, kind, and ready to help others (Đurić-Jočić et al., 2004). They are generally likely to express positive and benevolent style of interaction toward other people, possibly including elderly people as well.

The pattern of results obtained in this study suggests that different personality factors might be relevant for prejudice towards different types of social groups. Such results are in line with our recent findings indicating that different subsets of personality dimensions are related to explicit prejudice toward homosexuals and obese persons (Pavlović & Purić, 2015). We proposed three potential factors that might underpin the differences in prejudice towards these groups: (1) Visibility of group membership, (2) Perceived controllability of group membership, and (3) Public status and media attention related to group membership. It is possible that at least some of these factors might also shape the relationship between personality factors and implicit prejudice toward homosexuals and elderly people. For instance, elderly persons are immediately recognized as such, while the same does not apply to homosexual persons. Furthermore, unlike elderly individuals, homosexuals are in many countries deprived of realization of various human rights (e.g. the right to marriage, adoption, etc.), leading governments and/ or nongovernmental organizations to recognize this as an important social issue. Due to these reasons, the perception of elderly persons might be more under the influence of the person's general social interaction style, while the attitude toward homosexuals might remain in the domain of prejudice-related traits. Further research is required to explore these possibilities.

It is important to note that the results obtained in our study are at odds with the recent findings of Bergh and associates (2012) who discovered no relationship between generalized implicit prejudice and Openness to Experience and Agreeableness. We believe that one reason for this inconsistency might lay in the fact that Bergh and associates (2012) extracted one generalized factor of implicit prejudice from several IAT measures of prejudice toward different stigmatized groups. Such approach might have yielded a factor that at least partially reflected cognitive skill confound and method-specific variance (see Klauer & Mierke, 2005). More importantly, this generalized factor of implicit prejudice might have eliminated the variance specific to particular stigmatized groups and stigma (i.e., homosexuals, obese people, etc.) that, according to our results, is important for explaining the relation between personality and prejudice.

Another important finding of the present research was that the relation between both types of implicit prejudice and personality traits was irreducible to the relation between parallel measures of explicit prejudice and personality. In

other words implicit prejudice and personality factors shared unique variance that was not shared with and could not be explained by variance in explicit prejudice. This finding is in line with the reasoning that implicit and explicit prejudice are at least partially dissociated constructs (e.g. Gawronski & Bodenhausen, 2006; Wilson, Lindsey, & Schooler, 2000).

Implicit and explicit measures of prejudice toward homosexuals correlated mildly, while we found no relation between implicit and explicit measures of ageism. Previous studies similarly found a low correlation between implicit and explicit measures of prejudice toward different groups (Greenwald et al., 2009; Hofmann et al., 2005; Oswald et al., 2013). Due to egalitarian norms, people tend to present themselves in a socially desirable manner which usually results in selfreports that differ from what is typically revealed by implicit measures (Nosek et al., 2007). As for the reasons for non/existence of a correlation between implicit and explicit prejudice toward elderly people/homosexuals, we believe the aforementioned factors responsible for differences in prejudice toward social groups (i.e. visibility, perceived controllability, and public status) may also play a role in this discrepancy.

Future studies could try to broaden the scope of the obtained findings by employing implicit techniques in measuring personality factors as well. Employing multiple measures of both personality and prejudice and using multitrait-multimethod analysis could help extract the method confound in future studies dealing with this problem. Another line of research could explore the relationships between implicit prejudice and personality factors in other prejudice domains (e.g. prejudice toward persons suffering from mental disorders, prejudice toward obese persons, ethnic minorities, etc.). More importantly, future studies should strive to systematically vary types/dimensions of group differences (e.g. visibility of group membership) and measure their influence on relations between implicit prejudice and personality factors in order to determine the factors that moderate and shape this important and intriguing relationship.

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# BAZIČNE CRTE LIČNOSTI KAO KORELATI IMPLICITNIH PREDRASUDA

U radu smo se bavili ispitivanjem odnosa crta ličnosti sa implicitnim predrasudama. Kao model ličnosti u istraživanju je korišćen model Velikih pet dimenzija ličnosti, dok su od implicitnih predrasuda ispitivane predrasude prema: (1) homoseksualcima (Ogled 1) i (2) starijim osobama (Ogled 2). U prvom ogledu je učestvovalo 139, a u drugom 84 ispitanika, studenata psihologije. Bazične crte ličnosti su merene pomoću NEO PI-R inventara ličnosti, dok su implicitne predrasude registrovane pomoću dva testa implicitnih asocijacija - IAT-a koji meri implicitne predrasude prema homoseksualcima (Ogled 1) i IAT-a koji meri implicitne predrasude prema starijim osobama (Ogled 2). Pored toga, registrovali smo i eksplicitne predrasude i to primenom skala semantičkog diferencijala (predrasude prema homoseksualcima) i Fraboni skale (predrasude prema starijima). Rezultati su pokazali da ispitanici pokazuju blage negativne predrasude prema homoseksualcima na implicitnom nivou, dok je eksplicitni stav prema ovoj grupi bio pozitivan. Sličan obrazac rezultata smo utvrdili i u slučaju predrasuda prema starijim osobama – umeren nivo implicitnih predrasuda je bio praćen blago pozitivnim eksplicitnim stavom. U pogledu povezanosti implicitnih predrasuda sa crtama ličnosti, primenom korelacione i regresione analize utvrđeno je da su implicitne predrasude prema homoseksualcima povezane sa otvorenošću za iskustva, dok su implicitne predrasude prema starijim osobama bile u vezi sa dimenzijom saradljivosti. Preciznije, osobe sa nižim skorovima na dimenziji otvorenosti za iskustva su bile sklonije implicitnim predrasudama prema homoseksualcima, dok su osobe sa nižim skorovima na crti saradljivosti bile više sklone da demonstriraju implicitne predrasude prema starijima. Pritom, veza između navedenih crta ličnosti i implicitnih predrasuda se nije mogla svesti na paralelnu vezu između crta ličnosti i eksplicitnih predrasuda. Ustanovljeni rezultati ukazuju da je za obuhvatno razumevanje implicitnih stavova potrebno, osim socijalnih faktora, uzeti u obzir i faktore individualnih razlika. U radu smo poredili dobijene rezultate sa prethodno utvrđenim obrascima povezanosti između eksplicitnih predrasuda i crta ličnosti i ponudili nekoliko mogućih objašnjenja za razlike u utvrđenim rezultatima između implicitnih predrasuda prema homoseksualcima i starijim osobama. Smatramo da su razlike u karakteristikama socijalnih grupa odgovorne i za diferencijalni odnos implicitnih predrasuda prema tim grupama sa crtama ličnosti. Faktori koji bi mogli biti relevantnim za razlike

između grupa su: (1) vidljivost grupne pripadnosti (2) percipirana kontrolabilnost grupne pripadnosti i (3) javni status i medijska pažnja povezani sa grupnom pripadnošću. Pored ovoga, diskutovali smo implikacije dobijenih nalaza za teorijsko pitanje razlike između konstrukata implicitnih i eksplicitnih predrasuda.

Ključne reči: implicitne predrasude, predrasude prema homoseksualcima, predrasude prema starijim osobama, crte ličnosti, Test implicitnih asocijacija

### Appendix A

Table A1
The structure of the IATs used in the present research

IAT-H				IAT-A			
Block	Left key	Right key	Trials	Left key	Right key	Trials	
1	Straight	Gay	20	Good	Bad	24	
2	Good	Bad	20	Elderly	Young	24	
3	Straight/Good	Gay/Bad	20	Good/Elderly	Bad/Young	24	
4	Straight/Good	Gay/Bad	40	Good/Elderly	Bad/Young	48	
5	Bad	Good	40	Bad	Good	48	
6	Straight/Bad	Gay/Good	20	Bad/Elderly	Good/Young	24	
7	Straight/Bad	Gay/Good	40	Bad/Elderly	Good/Young	48	

*Note.* IAT-H = implicit prejudice toward homosexuals; IAT-A = implicit prejudice toward elderly persons. The table illustrates one of the two possible dual-categorization task-order conditions of coupling the target concepts (Straight and Gay or Elderly and Young) with the positive or the negative attribute category. This order effect was counterbalanced across subjects.

# Appendix B

Table B1 Semantic differential scales applied in measuring attitudes toward homosexual

Affective semantic differential scale		Cognitive semantic differential scale		
hateful	love	useless	useful	
sad	delighted	foolish	wise	
annoyed	happy	unsafe	safe	
tensed	calm	harmful	beneficial	
bored	excited	worthless	valuable	
angry	relaxed	imperfect	perfect	
disgusted	acceptance	unhealthy	wholesome	
sorrow	joy			