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Prejudice: The Interplay of Personality, Cognition, and Social Psychology

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Abstract

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Three main theoretical approaches to the study of the causation of prejudice can be distinguished within psychological research. The cognitive approach suggests that prejudice is a function of cognitive processes where stereotypic information about social groups, stored in memory, is automatically activated and affects people's judgements and behavior toward members of the target group. The personality approach suggests that prejudice is a function of people's personality characteristics. Finally, the social psychological approach emphasizes people's group membership and group identification as the as major source of causation.

Previous research has almost entirely focused on only one approach of causation at a time. The focus has also shifted periodically – with attention paid to one approach at each period of time. The present thesis is an attempt to integrate these approaches and suggests an integrative model where the relative contribution of each approach could be assessed. The underlying assumption is that all three approaches are meaningful and that prejudice is a complex phenomenon that is best explained by taking into account all approaches jointly.

Examining the cognitive approach, Paper I revealed that people are knowledgeable of the cultural stereotypes and that stereotypic information is automatically activated and affects people's judgments. Paper II (and Paper III) supported the personality approach and revealed that prejudice is highly related to primary personality characteristics and, in line with a central idea in this approach, different types of prejudice (ethnic prejudice, sexism, homophobia, and prejudice toward disabled people) are highly correlated. The results of Paper III revealed the importance of group membership and group identification, supporting the social psychology approach.

The findings are discussed in relation to previous research and the necessity to integrate various approaches and disciplines to explain psychological phenomena in general and prejudice in particular. Also, implications of the findings for prejudice prevention are discussed.

Keywords: Prejudice, implicit prejudice, explicit prejudice, generalized prejudice, personality, Big-Five personality, social dominance orientation, right-wing authoritarianism, social psychology, group membership, group identification, cognition, stereotype knowledge, priming, stereotype activation

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List of Papers

This thesis is based on the following papers, which in the following will be referred to by their Roman numerals.

- I Akrami, N., Ekehammar, B., & Araya, T. (2004). *Category and stereotype activation revisited*. Manuscript submitted for publication.
- II Ekehammar, B., Akrami, N., Gylje, M., & Zakrisson, I. (2004). What matters most to prejudice: Big Five personality, social dominance orientation or right-wing authoritarianism? *European Journal of Personality*, 18, 463-482.
- III Akrami, N., & Ekehammar, B. (2004). *Prejudice: Personality or social psychology?* Manuscript submitted for publication.

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Contents

Introduction.....	7
A Brief Background	7
Prejudice, Stereotypes, and Discrimination	7
Definitions	7
Implicit and Explicit Prejudice.....	9
The Distinction	9
Association or Dissociation?	9
“One” Phenomenon – Many Approaches	10
Approaches to Explaining Prejudice.....	10
The Personality Approach	12
The Social Psychology Approach.....	15
The Cognitive Approach.....	17
Major Aims and Research Questions	20
General Aim	20
Specific Aims	21
Methodology	21
Personality and Individual Differences Variables	21
The Big Five Inventory	21
Social Dominance Orientation	22
Right-Wing Authoritarianism	22
Social Psychological Variables.....	22
Group Membership	22
Gender Identification	22
Ethnic Identification.....	23
Measuring Explicit Prejudice	23
General Issues	23
Ethnic Prejudice – Prejudice toward Immigrants.....	23
Sexism – Prejudice toward Women	24
Prejudice toward Intellectually Disabled Individuals	24
Homophobia – Prejudice toward Homosexuals.....	24
Measuring Implicit Prejudice	24
Statistical Issues.....	25
ANOVA vs. Regression Analysis	25
Causal Modeling	25

Empirical studies.....	27
Paper I.....	27
Study 1.....	27
Background.....	27
Method.....	27
Results and Comments.....	27
Study 2.....	29
Background.....	29
Method.....	32
Results and Comments.....	33
Study 3.....	33
Background.....	33
Method.....	34
Results and Comments.....	35
Paper II.....	36
Study 4.....	36
Background.....	36
Method.....	37
Results and Comments.....	37
Paper III.....	41
Study 5.....	41
Background.....	41
Method.....	41
Results and Comments.....	42
Study 6.....	44
Background.....	44
Method.....	45
Results and Comments.....	46
General discussion.....	50
Major Findings – Relations to the Three Approaches.....	50
The Cognitive Approach.....	50
The Personality Approach.....	50
The Social Psychology Approach.....	51
Issues Related to the Three Approaches.....	51
Implicit and Explicit Prejudice – Association or Dissociation?.....	51
Associative Strength and the Category-Stereotype Distinction.....	52
Personality and Self-Categorization Theory.....	53
Methodological Issues.....	54
Future Research – An Integrative Approach.....	54
Final Words.....	55
Acknowledgements.....	57
References.....	58

Introduction

A Brief Background

The tsunami catastrophe in South East Asia in late 2004 demolished the homes, working places, and lives of hundreds of thousands of people. Almost immediately, people from every corner of the world reacted by showing an enormous willingness to help and did so by generously offering any help they could, from blood to money donations. According to the United Nations and many charity organizations, such a willingness to help has never been witnessed before. The catastrophe, thus, revealed the best of good human nature. Unfortunately, there are far more examples of the opposite – with people showing hatred and killing each other, on more or less regular basis, in for example, Ache, Northern Ireland, Sri Lanka, Darfur, Iraq, and Kashmir, just to mention a few. With no claims on solving the issue, the present thesis seeks to understand basic mechanisms of why people do not like, or think ill of, each other.

Prejudice, Stereotypes, and Discrimination

Definitions

The term *prejudice* refers to prejudgment and originates from the Latin *praejudicium*. Earlier dictionary and textbook definitions of the term suggest that prejudice is a favorable or unfavorable feeling toward people based on their social group membership. Although logically correct, including favorable in the definition is, however, not fully agreed upon. For example, Gordon Allport (1954), in his classical analysis of prejudice, asked students to write down their attitudes toward various ethnic groups, with no suggestion that could lead them toward negative reports, and found that they reported eight times as many antagonistic attitudes as favorable ones. Also, more recent research suggests that listed thoughts (e.g., stereotypes) about different social groups are mostly negative (e.g., Augoustinos, Ahrens, & Innes, 1994; Devine, 1989; Lepore & Brown, 1997). Further, Allport argued that prejudgments are not necessarily prejudiced, and that prejudgments become prejudices when they are not reversible even if a person is exposed to new and contradictory information. The definition, thus, has undergone changes

resulting in many different versions – varying depending on the author and the context. There are, however, some general points of agreement about what prejudice is. For example, prejudice is argued to be an intergroup phenomenon, a negative orientation, something bad, and an attitude (Ashmore, 1970; Ashmore & Del Boca, 1981; see also, Duckitt, 1992). This more recent analysis fits well with the classical definition proposed by Allport who suggested that prejudice is “an antipathy based upon a faulty and inflexible generalization” (1954, p. 9). This definition, which involves both affect (the negativity part) and cognition (generalization), has been adopted by many authors (e.g., Hilton & von Hippel, 1996; Pettigrew & Meertens, 1995). Another widespread definition, more or less similar to that of Allport, suggests that prejudice refers to negative judgments, beliefs, and feelings about people because of their social group membership. This definition extends that of Allport beyond the cognitive and affective dimensions by the explicit inclusion of social psychology (group membership). In addition, this definition fits into the framework set by the last decades’ research on stereotyping and prejudice within various sub-areas of psychology.

Stereotypes are argued to be the cognitive component of prejudice, and defined as beliefs about the characteristics, attributes, and behaviors of members of a particular social group (e.g., Hamilton & Sherman, 1994). They also constitute an individual’s theories about how and why certain attributes of a specific social group go together (e.g., Fiske, 1998; Hilton & von Hippel, 1996). Further, stereotypes are argued to be socially shared generalizations about members of the particular group (Devine, 1989). Research attests that stereotypes are developed and maintained through, for example, social roles (e.g., Eagly, 1995) or for justifying status quo (e.g., Sidanius & Pratto, 1999). Although all stereotypes are not necessarily negative (e. g., Allport, 1954), stereotypes about outgroup members have more negative connotations than those about ingroup members (Hamilton & Sherman, 1994). For example, outgoing behavior can be seen as “social” if performed by an ingroup member and “pushy” if an outgroup member performs it. There is a large number of studies showing that stereotypes often lead to negative evaluation and discriminatory judgments of outgroup members (e.g., Bargh, Chen, & Burrows, 1996; Chen & Bargh, 1997; Devine, 1989).

We are dealing with *discrimination* when people act or behave in accord with their prejudiced beliefs and negative attitudes toward outgroup members. People could engage in discriminatory behavior also without being aware of that behavior (e.g., Bargh & Chartrand, 1999; Bargh et al., 1996).

Implicit and Explicit Prejudice

The Distinction

Influenced by past work on memory and information storage (Tulving, 1985), research in the domain of social psychology has emphasized the importance of the distinction between explicit (or controlled) and implicit (or automatic) components of attitudes (Greenwald & Banaji, 1995; see also Devine, 1989; Schneider & Shiffrin, 1977). Explicit attitudes are slow, intentional and operate in a conscious mode, whereas implicit attitudes are fast, automatic and operate without intention, often in an unconscious mode (e.g., Greenwald & Banaji, 1995). This distinction is also valid for prejudicial attitudes. Whereas explicit prejudice is a consciously endorsed and controllably expressed attitude, implicit prejudice is an automatic evaluation of outgroups outside the individual's conscious control (e.g., Brauer, Wasel, & Niedenthal, 2000; Wilson, Lindsey, & Schooler, 2000; Wittenbrink, Judd, & Park, 1997). The distinction between implicit and explicit prejudice is largely agreed upon, and the terms and the methods are employed within personality and social psychology research. Whereas explicit prejudice is measured by traditional self-report questionnaires, implicit prejudice is assessed using indirect measures based on various techniques, such as the automatic application task (e.g., Ekehammar, Akrami, & Araya, 2003), the adjective evaluation task (e.g., Akrami & Ekehammar, in press), and the implicit association test (e.g., Greenwald, McGhee, & Schwartz, 1998; Nosek, Greenwald, & Banaji, 2005). Recent developments speak in favor of the implicit association test as a reliable measure of implicit prejudice (e.g., Nosek et al., 2005; but see McFarland & Crouch, 2002). This development has been paralleled by the construction of modern, as opposed to classical ("old-fashioned"), measures in the explicit domain (e.g., Akrami, Ekehammar, & Araya, 2000; Ekehammar, Akrami, & Araya, 2000).

Association or Dissociation?

Whereas researchers agree about the terms and methods when examining implicit and explicit prejudice, there is a definite lack of consensus about whether the implicit and explicit measures assess the same construct (e.g., Brauer et al., 2000; Maass, Castelli, & Arcuri, 2000; Fazio & Olson, 2003). For example, whereas some researchers have found a relation between implicit and explicit prejudice (e.g., Augoustinos et al., 1994; Kawakami, Dion, & Dovidio, 1998; Lepore & Brown, 1997, Study 2; Locke, Macleod, & Walker, 1994; Moskowitz, Wasel, Gollwitzer, & Schaal, 1999; Wittenbrink et al., 1997), others have not (e.g., Banaji & Greenwald, 1995; Bargh et al., 1996, Experiment 3; Brauer et al., 2000; Devine, 1989; Dunning & Sherman, 1997). Some other researchers have found a mixed pattern of results (Do-

vidio, Kawakami, Johnson, Johnson, & Howard, 1997), and yet others have found the relation to be moderated by other variables (e.g., Akrami & Ekehammar, in press). However, despite the findings mentioned above, there are two major theoretical lines reflected in the literature (Brauer et al., 2000). The first line of theorizing suggests that implicit and explicit prejudice reflect the same underlying construct and there should be a positive relationship between the two (the association model; for a detailed review, see Brauer et al., 2000; see also Kawakami et al., 1998; Lepore & Brown, 1997). The central argument within this approach is that implicit prejudice is an internalization of explicit prejudice and, thus, they should be correlated. The other line of theorizing suggests that implicit prejudice reflects culturally shared negative stereotypes about a specific group that are internalized and automated whereas explicit prejudice reflects personal beliefs that are consciously elaborated. The consequence of this theoretical view is dissociation, or no relation between implicit and explicit prejudice (the dissociation model), or at least no stable correlation between the implicit and explicit measures of prejudice (Brauer et al., 2000; Devine, 1989). There is yet another and more diverse line of reasoning on this issue. For example, Fazio, Jackson, Dunton, and Williams (1995; see also Plant & Devine, 1998) suggest that the lack of relation could be a result of error of measurement in the explicit measures of prejudice. However, recent analyses suggest that both the implicit and explicit measures of prejudice may suffer from poor reliability (Cunningham, Preacher, & Banaji, 2001; see also Maass et al., 2000). When correcting for the reliability shortcomings, by latent variable analysis, a high correlation between implicit and explicit prejudice was revealed – in support for the association model (Cunningham et al., 2001).

Despite some impressive studies and the fast advances that have been made in stereotyping and prejudice research, a glance at the contemporary literature discloses that the relationship between implicit and explicit prejudice seems most often to be dependent on the measurement methods employed when examining the constructs. Thus, the final word on the association/dissociation issue is yet to come.

“One” Phenomenon – Many Approaches

Approaches to Explaining Prejudice

During more than five decades, prejudice and intergroup conflict have generated a substantial amount of research within many areas of psychology. Researchers have presented numerous theories and approaches on the causation of prejudice – most often focusing on only one factor/approach of causation at a time (Duckitt, 1992). However, there have been some attempts to bring together different explanations, at least theoretically. For example,

Allport (1954) identified six different levels of explanation to prejudice: the historical, sociocultural, situational, personality, phenomenological, and stimulus object level. Allport's extensive analyses have rarely been used by researchers "...perhaps precisely because it may have seemed too extensive and rather cumbersome" (Duckitt, 1992, p. 44). A more recent attempt to summarize the approaches to explaining prejudice was made by Ashmore and DelBoca (1981) who suggested that previous research on prejudice (and stereotyping) has been guided by three approaches: the *psychodynamic*, the *sociocultural*, and the *cognitive* (see also Hamilton & Sherman, 1994). Whereas the *psychodynamic* aspect is argued to account for the motivational and personality causation of prejudice, the *sociocultural* emphasizes social group-thinking and intergroup attitudes, and the *cognitive* highlights the significance of information processing, stereotype activation and application aspects of prejudice (Ashmore & DelBoca, 1981; Duckitt, 1992; Hamilton & Sherman, 1994). Although Ashmore and DelBoca's analysis provides a relatively "simplified" and right to the point classification, and a nice parallel with the basic definition of prejudice, researchers seem to prefer the concepts and the methods of one approach at a time (Hamilton & Sherman, 1994). This preference has also shifted over time – with attention paid to one approach at each period of time. For example, in recent years researchers have paid attention to the cognitive component with a specific focus on stereotype formation, activation, and function (e.g., Hamilton & Sherman, 1994; but see Ekehammar & Akrami, 2003; Reynolds, Turner, Haslam, & Ryan, 2001).

In addition to the lack of an integrated approach, there is an increasing number of implicit claims made by researchers within different approaches that prejudice is explained by their own approach only. Despite these claims, and largely surprising, there is no study where the relative contribution of each approach has been assessed efficiently. The present thesis is an attempt to break the "habit of one approach at a time" and to suggest a model where different approaches to prejudice are integrated. The underlying assumption here is that prejudice is a complex and multifaceted phenomenon that is rarely explained by a single approach. With the aim to present an integrative approach, the present thesis has been guided by the early work of Allport (1954) and the more recent work of Ashmore and DelBoca (1981). The present thesis is, however, oriented toward a more strict interdisciplinary level of explanation. Accordingly, three approaches to explaining prejudice are included: the *personality*, the *social psychology*, and the *cognitive* approach. Choosing these approaches has been guided by the definition of prejudice where these approaches function as the basic elements. Thus, individual characteristics, social group membership, and stereotype function and processing are reflected in the research of personality, social, and cognitive psychology, respectively.

The Personality Approach

From the beginning, research on prejudice and intergroup conflict has been strongly focused on personality and individual differences – starting with the classical work of Allport and the introduction of the concept of *generalized prejudice* (Allport, 1954), the *authoritarian personality* theory (Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1950), the *frustration-aggression hypothesis* (Dollard, Doob, Miller, Mowrer, & Sears, 1939), the *dogmatism* and *close-mindedness* theory (Rokeach, 1948, 1960), the *right-wing authoritarianism* theory (Altemeyer, 1981), the *social conformity* and *tough-mindedness* concepts (Duckitt, Wagner, Du Plessis, & Birum, 2002), and *social dominance theory* (e.g., Sidanius & Pratto, 1999). More recent research has explored the relation between prejudice and basic personality, or the *Big Five* personality factors (Ekehammar & Akrami, 2003; see also Duriez & Soenens, 2004). The list of personality and individual difference variables used to explain prejudice could be made even longer.

There are, however, three major explanatory variables that recent research within the personality approach have focused on – the *Big-Five personality*, *right-wing authoritarianism (RWA)*, and *social dominance orientation (SDO)*. These variables and theoretical lines of research will represent the personality approach in the present thesis. This selection is based on the results from recent research where a large number of studies have shown that Big-Five personality, RWA, and SDO together account for a large portion of the variance in prejudice and intergroup conflict (e.g., McFarland, 2001). Further, a large number of studies suggest that RWA and SDO, despite their predictive power of the same types of prejudice, are relatively independent (e.g., Duckitt et al., 2002; Heaven & Bucci, 2001), and are related to different factors within the Big Five personality domain (Duriez & Soenens, 2004). A further reason for choosing these theories to represent the personality approach is that they have well-established instruments with a considerable amount of support from validity and reliability data. A brief presentation of the relation between these variables and prejudice follows below.

According to Altemeyer (e.g., 1981, 1998), RWA consists of *conventionalism*, *authoritarian submission*, and *authoritarian aggression*. High-RWA people are argued to be highly ethnocentric, and can be expected to act aggressively toward outgroups (Altemeyer, 1998). The status of RWA has fluctuated within contemporary research – whereas some researchers argue that RWA is a personality variable (e.g., Altemeyer, 1996, 1998), some others have placed it at the interface between personality and social psychology (Duckitt et al., 2002). There is also evidence speaking for the heritability of RWA (McCourt, Bouchard, Lykken, Tellegen, & Keyes, 1999). Anyhow, previous research within the personality approach has documented that authoritarian or RWA people hold negative attitudes toward women (Altemeyer 1998; McFarland, 2001), Jews (McFarland, Ageyev, & Abalagina,

1993), African-Americans (Altemeyer 1998; Lambert & Chasteen, 1997; McFarland, 2001; Whitley, 1999), and homosexual people (Altemeyer 1998; Lippa & Arad, 1999; McFarland, 2001; Whitley, 1999; Whitley & Ægisdóttir, 2000; Whitley & Lee, 2000). RWA has also been shown to be related to biological, symbolic and aversive racism, ethnocentrism, blatant and subtle prejudice (Duriez & Soenens, 2004; Van Hiel & Mervielde, 2003), modern racism (Reynolds et al., 2001), prejudice toward Turkish immigrants in the Netherlands (Verkuyten & Hagendoorn, 1998), antiblack attitudes among white South Africans (Duckitt, 1992), prejudice toward Asian and Aboriginal people in Australia (Heaven & St. Quintin, 2003), and social attitudes, like attitudes toward war (McFarland, 2005).

The other major line of research within the personality approach is based on social dominance theory (SDT; Sidanius & Pratto, 1999). The individual difference construct of SDT is social dominance orientation (SDO) which is defined as “a general attitudinal orientation toward intergroup relations, reflecting whether one generally prefers such relations to be equal, versus hierarchical” (Pratto, Sidanius, Stallworth, & Malle, 1994, p. 742). SDO is argued to be an individual difference or personality variable with evolutionary roots (e.g., Pratto et al., 1994; Sidanius & Pratto, 1999), a definition questioned by some researchers (Schmitt et al., 2003; Turner & Reynolds, 2003). However, the definition of SDO suggests that high-SDO people support intergroup hierarchies and tend to arrange social groups in a superior-inferior order. Although the theory of SDO is a “newcomer” there is an impressive amount of research attesting its strength in predicting various types of prejudice in different cultures and settings. Thus, SDO has been found to correlate strongly with measures of, for example, ethnic prejudice (e.g., Akrami et al., 2000; Sidanius & Pratto, 1999), sexism (e.g., Ekehammar et al., 2000; Pratto et al., 1994; Sidanius, Pratto, & Bobo, 1994, 1996), negative attitudes toward homosexual people (e.g., Altemeyer 1998; Whitley, 1999), symbolic and classic racism (Van Hiel & Mervielde, 2002), aversive racism, ethnocentrism, and blatant and subtle prejudice (Duriez & Soenens, 2004; Van Hiel & Mervielde, 2003), and generalized prejudice – a composite measure of attitudes toward homosexual people, African Americans, and women (McFarland, 2001; see also Guimond, Dambrun, Michinov, & Duarte, 2003).

Another line of research within the personality approach is based on the Big-Five personality model, which postulates that human personality can be described by five higher-order factors, domains or dimensions (Neuroticism, Extraversion, Openness to Experience, Agreeableness, Conscientiousness; e.g., Digman, 1990; McCrae & Costa, 1996, 1999). Each dimension measures six underlying facets or subfactors. Specifically, Neuroticism is the higher-order factor of, for example, *Depression* and *Anxiety*, Extraversion of *Warmth* and *Positive Emotions*, Openness to Experience of *Fantasy* and *Aesthetics*, Agreeableness of *Altruism* and *Tender-Mindedness*, and Consci-

entiousness of *Order* and *Deliberation*. There is extensive empirical support for the view that the Big-Five personality model offers a plausible description of human personality. More important for the present thesis, McCrae and Costa (1996, 1999) outlined a general framework for the causal relationships between what they call “basic tendencies” (Big Five personality factors), “characteristic adaptations” (e.g., attitudes like RWA and SDO), and “objective biography” (e.g., observable behavior, like prejudice manifested in discrimination). Within this framework, “basic tendencies” are assumed to affect “characteristic adaptations” which in turn affect “objective biography”. This framework offers an interesting guideline to examining the implications of the Big-Five personality for the study of prejudice. Surprisingly, despite the widespread use of the Big Five personality factors in explaining various social phenomena, the relation between Big-Five personality and prejudice has not been subjected to as much attention as the relation of RWA and SDO with prejudice (but see Duriez & Soenens, 2004; Ekehammar & Akrami, 2003; McFarland, 2001; Saucier & Goldberg, 1998). This might be due to the focus of previous research on what could be defined as specific facets rather than broad Big-Five factors (Duckitt et al., 2002).

However, the relation between Big Five personality and different types of prejudice has recently been examined in two studies (Ekehammar & Akrami, 2003; Duriez & Soenens, 2004). In one study, and in line with McFarland (2001), Ekehammar and Akrami (2003) found the two Big-Five factors Openness to Experience and Agreeableness to be powerful predictors of generalized prejudice (a composite measure of four types of prejudice). Also, Duriez and Soenens (2004), focusing on the relation between identity style, personality, and prejudice, found Openness to Experience and Agreeableness to be correlated with racism. Although limited in number, these findings highlight the significance of Big Five personality, specifically the factors of Openness to Experience and Agreeableness, in explaining prejudice.

The personality and individual differences explanation of prejudice has, however, received repeated criticism, for example, for its tone of reductionism and context-independence (e.g., Duckitt, 1992; Heaven & St. Quintin, 2003; Reynolds et al., 2001). Recent research has also questioned the stability of the widely accepted personality variable RWA (e.g., Reynolds et al., 2001; Verkuyten & Hagoort, 1998; but see Heaven & St. Quintin, 2003; McCourt et al., 1999). Some other research suggests that prejudice is better explained by social position with personality variables like SDO functioning as moderators, at best (e.g., Guimond et al., 2003). There is, however, one central issue within the personality approach that the critiques have not fully dealt with, that of *generalized prejudice*. Generalized prejudice was proposed by Allport (1954) and was recently examined by McFarland (2001) and Ekehammar and Akrami (2003) who found that different types of prejudice are highly correlated and form one factor (only). Thus, there seems to

be a common core in various types of prejudice that is hardly explained by group membership and stereotype content.

However, there is a large body of data that supports the contention that personality is a strong predictor of prejudice and intergroup conflict. Consequently, there is no reason to discard the personality explanation of prejudice, as is the practice by some researchers in the field of social psychology (e.g., Reynolds et al., 2001; see also Turner & Reynolds, 2003).

The Social Psychology Approach

As much as personality psychologists consider prejudice and intergroup conflict to be a matter of personality, social psychologists regard it as a social psychological phenomenon. There is, thus, a large amount of social psychological research that has examined prejudice and intergroup conflict. Interestingly, the ideas behind the social psychological explanation of prejudice and intergroup conflict stem, more or less, from the same source as the personality explanation – Allport's *The Nature of Prejudice* (1954). Allport argued that categorization, a necessary process by which we simplify the complex world, is an important factor when it comes to the question of why some people possess negative bias toward other people or groups. According to Allport, people often think in terms of group membership and categorize other people into *ingroup* and *outgroup*, and *us* and *them*, and tend to favor the ingroup and reject or display negative bias toward the outgroup members.

Adding motivation to Allport's idea that categorization leads to intergroup bias, Tajfel introduced *social identity theory* (SIT; Tajfel, 1981, 1982; Tajfel & Turner, 1979). Within the framework of SIT, engagement in categorization is conditioned by motivational factors and people are motivated to see the (in)groups they belong to as different or/and better from other (out)groups. In other words, people are motivated to be associated with a social group for reasons of self-enhancement. Being categorized as a group member, people seek to enhance their self-esteem by favoring the ingroup at the expense of the outgroup – resulting in negative bias, prejudice, and intergroup conflict.

Adding little cognition by extending the role of the salience concept, and a portion of personality by incorporating the self, Turner, Hogg, Oakes, Reicher, and Wetherell (1987; see also Turner, 1982, 1984) extended SIT by introducing *self-categorization theory* (SCT). SCT suggests that one should distinguish between *personal identity* (or the personal self) and *social identity* (or the collective self; for a review see Ashmore, Deaux, Mclaughlin-Volpe, 2004), and that identity, moderated by salience, could shift from personal to social or vice versa (Abrams & Hogg, 2004; Onorato & Turner, 2004). When social identity is made salient and the self is categorized as a group member, personal identity is inhibited and the social identity, group

norms, and group interests of the specific group are activated and acted upon (e.g., Abrams & Hogg, 2004). The process is vice versa for personal identity – when personal identity is made salient social identity is inhibited and self-knowledge is activated and acted upon (e.g., Onorato & Turner, 2004; see also Hugenberg & Bodenhausen, 2004). In sum, salience, context specificity, identity-flexibility, and the distinction between personal and social identity are seen as key issues and as the significant markers of SCT, the theoretical cousin of SIT. It is, however, important to note that although the identity activation-inhibition process might put people in one (personal identity) or the other (social identity) end of a personal-social identity continuum, people seem to strive for an intermediate level by which they enhance their level of social harmony and sense of belonging (Hogg, 1996; see also Brewer, 1991; Dovidio, Gaertner, Esses, & Brewer, 2003).

Within SIT and SCT, social identity is defined as “that part of the individual’s self-concept which derives from his knowledge of his membership of a social group together with the value and emotional significance attached to that membership” (Tajfel, 1978, p. 63; see also Ashmore et al., 2004). This suggests that ingroup favoritism and prejudice vary, not only as a function of group membership (as social categorization suggests), but also as a function of people’s social identification with the ingroup (e.g., Tajfel & Turner, 1979; Masson & Verkuyten, 1993), that is, the degree to which people define themselves as members of a specific social category (e.g., Guimond, 2000). Initial empirical support for this reasoning was obtained within the minimal group paradigm in which category membership (even when made on irrelevant basis) was found to evoke ingroup favoritism and intergroup conflict (e.g., Brewer & Brown, 1998). More recent research focusing on group identification (but also group membership) has reported that (in)group identification is a major predictor of intergroup conflict both from a target and a perceiver perspective. That is, even people as targets of prejudice might perceive prejudice depending on their level of identification with the group they belong to. Group identification is, thus, a powerful predictor of intergroup attitudes and behavior (e.g., Ellemers, Spears, & Doosje, 1997; Guimond, 2000; Perreault & Bourhis, 1999; Ullah, 1987). Specifically, research has documented that ethnic group identification moderates how ethnic group members perceive and react to prejudice from other groups (Operario & Fiske, 2001), and that the emotional consequence of prejudice for targeted individuals is different as a function of the degree of their group identification (McCoy & Major, 2003). In a similar vein, women perceive stereotype threat and attribute discrimination depending on their degree of group identification with women (Major, Quinton, & Schmader, 2003; Schmader, 2002).

Like the personality approach, the social psychological approach to prejudice has received criticism. For example, one of the most fundamental questions that the social psychological approach has failed to answer is why different types of prejudice (e.g., ethnic prejudice, sexism, and homophobia)

are highly correlated (e.g., Ekehammar & Akrami, 2003; see The Personality Approach above). From the personality perspective, personality matters – and the way in which the social world is received and perceived is influenced by our personalities. Borrowing the words of Heaven and St. Quintin (2003, p. 627), this influence can simply not be “switched on” and “switched off” as researchers in the social psychological tradition suggest. Personality variables could also function as predictors of people’s tendency to engage in self-categorization and group identification which recent research has found to be the case in minimal group paradigm experiments (e.g., Perreault & Bourhis, 1999).

Regardless of the points of disagreement, there is a large body of research within the social psychological approach that supports the contention that prejudice and intergroup conflict are highly moderated by central social psychological variables (e.g., Brewer & Brown, 1998). The present thesis focuses on two major and well-established social psychological variables to represent the social psychological approach – social group membership and social group identification. The focus on these variables is based on the results from previous research where a large number of studies have shown that social group/category membership (see Akrami et al., 2000, Ekehammar et al., 2000) and group identification (e.g., Ellemers et al., 1997; Guimond, 2000; Perreault & Bourhis, 1999; Tajfel & Turner, 1986; Turner et al., 1987; Ullah, 1987; Verkuyten & Hagendoorn, 1998) account for a large part of the variance in prejudice and intergroup conflict.

The Cognitive Approach

Allport’s contribution to our understanding of prejudice and intergroup conflict is not limited to the personality and the social psychology approaches. In his distinguished analyses, Allport (1954) also offered a cognitive introduction to the understanding of prejudice. Thus, it could be argued that even the cognitive approach has its roots in Allport’s *The Nature of Prejudice* (1954). However, research on cognitive processes in general, and that related to prejudice and stereotyping in particular, has boomed as a result of the cognitive revolution. One of the most important points of departures, and a fundamental base of the cognitive approach to prejudice, is the human memory and its function. Within this context, the processes of encoding, representation, and retrieval of information are especially important for the individual’s functioning in everyday social interaction. Hence, these processes are important for our understanding of how people store, retrieve, and apply information about other people and social groups.

Cognitively, social life is chaotic and unbearable (e.g., Bargh & Chartrand, 1999). The social individual has to handle the chaos and information overload by various cognitive tools. Categorization is argued to be one of these essential cognitive tools by which people, with a minimum amount of

resources, simplify and make sense of the world they live in (e.g., Allport, 1954; Hamilton & Sherman, 1994; Macrae & Bodenhausen, 2000; Macrae, Milne, & Bodenhausen, 1995). Within this context, a social category is the label of a descriptive set of information about a classified group of individuals (e.g., professors, PhD students) in the individual's memory. The category is attached to visual, declarative or procedural information, significant for its recognition and classification, and necessary for the individual's social interaction (Andersen & Glassman, 1996; Smith, 1998).

When categorizing social objects, people often see others as social category members rather than unique individuals (Araya, 2003; Fiske, 1998; Macrae & Bodenhausen, 2001). In doing so, people often use dominant or "primitive" markers, such as age, gender, and ethnicity to reduce complex social information into small, easily processed quantities (e.g., Allport, 1954; Fiske, 1998; Srull & Wyer, 1989; Stangor, Lynch, Duan, & Glass, 1992). These categories ("the big three") have a primacy status because of their "dominant" perceptual features and their ease to be seen. Previous research suggests, however, that even "less dominant" perceptual cues, like movement characteristics (e.g., Ambady, Hallahan, & Conner, 1999; Runeson & Frykholm, 1983) and skin tone (e.g., Blair, Judd, Sadler, & Jenkins, 2002; Maddox & Gray, 2002) are used to categorize people. Regardless of its basis and the cognitive model used to conceptualize category representation (e.g., exemplar, prototype), social cognition researchers agree that categorization and category activation are automatic and necessary mental processes (e.g., Allport, 1954; Devine, 1989; Hamilton & Sherman, 1994; Macrae & Bodenhausen, 2000, 2001).

Despite its usefulness as a necessary cognitive (and motivational) tool, categorization can sometimes lead to undesired effects in the individual's perception of others (e.g. Hamilton & Sherman, 1994). Categorization is, for example, argued to be the basic mechanism in stereotype activation (e.g., Araya, 2003; Hamilton & Sherman, 1994). Within the cognitive field, stereotypes are defined as mental representations consisting of images of a specific social group, knowledge and expectancies of what the members of the group are like and of (generalized) behavioral characteristics of that group (Hamilton & Sherman, 1994). Previous research on semantic priming (activation of stored knowledge) and content accessibility suggests that the activation of one mental construct (e.g., PhD student) results in enhanced accessibility of related constructs (e.g., thesis) by a spreading activation mechanism (e.g., Higgins, 1996; Macrae, Stangor, & Milne, 1994; Neely, 1977; see also Neely & Kahan, 2001). A similar logic is applied in social cognition (person perception) where, for example, the activation of a social category (e.g., African American) is found to increase the accessibility of related stereotypes (e.g., hostile) in memory (Devine, 1989; see also Chen & Bargh, 1997; Bargh et al., 1996). Thus, categories are just the beginning of our simplification of the world. To complete our understanding and simplifi-

cation of the world, categories come together with mental representations associated to them – stereotypes (e.g., Hamilton & Sherman, 1994; Hilton & von Hippel, 1996). In addition, stereotypic information is argued to be functional in social information processing and supplies the perceiver with necessary information to make social inferences (e.g., Hilton & von Hippel, 1996).

A large body of research indicates the complexity of stereotypes by showing that stereotypical information goes beyond the task of serving the individual inference assistance. Activated stereotypes are found to affect many aspects of social information processing including attention (e.g., Araya, Akrami, & Ekehammar, 2003; Bodenhausen, 1988), information interpretation (e.g., Darley & Gross, 1983; Higgins & Bargh, 1987), which is made in a confirmatory fashion (Araya, 2003; Bodenhausen & Wyer, 1985; Dijksterhuis & van Knippenberg, 1996), and inference (e.g., Krueger & Rothbart, 1988).

Interestingly, previous research has documented the automatic, unconscious nature of stereotype activation (and application) showing that activated stereotypes increase in accessibility and, consequently, influence people's judgements of the individual members of the target group (e.g., Devine, 1989; Dovidio et al., 1997; Fazio et al., 1995; Lepore & Brown, 1997; Wittenbrink et al., 1997). Research has also shown that the activated stereotypes influence, not only people's own behavior, but their perceptions of the social behavior of others as well (e.g., Bargh et al., 1996; Chen & Bargh 1997). Starting with the study of Devine (1989), the basic assumption within this line of research is that stereotypes about outgroup members are socially shared, automatically (unconsciously) activated upon encounters with members, or an equivalent symbol, of the outgroup. Consequently, activated stereotypes, by for example spreading activation and halo effect, impact the individual's behavior toward, and judgment of, outgroup members (e.g., Devine, 1989; Ekehammar et al., 2003; Lepore & Brown, 1997; Locke et al., 1994). Adding the negative nature (see above, under Definitions) of stereotypes about outgroup members to these assumptions, stereotype activation and implicit prejudice could, thus, be regarded to be two sides of the same coin (e.g., Brauer et al., 2000; Ekehammar et al., 2003). Although not explicitly mentioned, this assumption is the basic element of the theoretical reasoning behind the search for a relation between implicit and explicit prejudice (the association model). However, as suggested by Devine (1989), stereotypes are culturally shared and are accessible to both (explicitly) prejudiced and unprejudiced people, and their activation and consequent effect on judgment and behavior are found for both prejudiced and unprejudiced people (Devine, 1989). Consequently, implicit and explicit prejudice are not related and implicit prejudice is an inevitable consequence of stereotype knowledge and activation.

The philosophical consequence of this conclusion is the lack of free will, which might have led researchers to examine this issue perhaps more than any other. The examination of the implicit-explicit prejudice relation has, however, yielded a mixed pattern of results (see above).

Moreover, and disregarding the inconsistency of the results on the relation between implicit and explicit prejudice, the cognitive approach has received a fair amount of criticism. For example, critique has been directed to the poor psychometric properties of the instruments used (e.g., Maass et al., 2000). Further, some researchers have found that the various implicit measures assess different aspects of implicit prejudice. For example, whereas some measures have been found to capture the activation of stereotypes (adjective evaluation tasks) others have been argued to capture the application of them (automatic evaluation tasks; see Brauer et al., 2000). Further, and more important to the relation between implicit and explicit prejudice, critique has been directed to some “optimistic” view harbored by some researchers. Bargh (1999), questioning methodological and theoretical elements in previous research, argued that the “evidence of controllability is weaker and more problematic than we would like to believe” (p. 361).

Despite the points of theoretical disagreement and some inconsistent empirical findings, the cognitive approach has added a new dimension to the study of prejudice. Prejudice is a socially sensitive phenomenon and its expression is subject to factors like, for example, social desirability, and in some countries, legal fines or punishments. To measure such a phenomenon and to understand the mechanisms behind it, indirect (implicit) methods developed within the cognitive approach are essential. To represent the cognitive approach, the present thesis focuses on stereotype knowledge and content, stereotype and category activation, and whether activated stereotypes and categories have an impact on people’s judgments (further details are presented in the Methodology section).

Major Aims and Research Questions

General Aim

The general aim of the present thesis is to examine whether personality, social psychological and cognitive factors are meaningful in an explanation of prejudice. More important, and despite the *disintegrative* introduction section where the personality, the social psychology, and the cognitive approaches were presented under separated headings, the major aim of the present thesis is to try to integrate these approaches. The assumption underlying this aim is that all these approaches add significance to explaining prejudice. This integration aims at proposing a basic theoretical framework

within which future research could assess the relative contribution of each approach.

Specific Aims

The present thesis is based on three papers, which in turn are based on six empirical studies. To avoid redundancy, the specific aims of each study will be presented within the presentation of that study and, here, the aims will be presented in a concise form only.

Study 1 attempted to examine (a) stereotype content and what *specific* social categories are included when people think of the social category immigrants and (b) whether stereotype knowledge is a function of explicit ethnic prejudice. Study 2 aimed at examining whether subliminally activated words covering stereotypes (stereotype activation) and categories (category activation) of immigrants evoke the same degree of implicit prejudice irrespective of participants' explicit prejudice. Study 3 was conducted as a conceptual replication of Study 2 (category activation), using more ecologically relevant priming stimuli, photographs of immigrants. Study 4 attempted to examine the personality approach to prejudice by including various personality variables and different types of prejudice and examining their relation. Study 5, in addition to personality variables, aimed at examining the role of social psychological variables (group membership) in explaining prejudice. Study 6, introduces additional social psychological variables (group identifications) and examines their explanatory power of prejudice. Study 5 and Study 6 integrate the personality and the social psychology variables within the same model, which makes possible the assessment of each approach's explanatory power of prejudice.

Methodology

Personality and Individual Differences Variables

The Big Five Inventory

There are several inventories measuring the Big Five factors. The present thesis employed a Swedish translation of the Big Five Inventory constructed by John, Donahue, and Kentle (cf. John & Srivastava, 1999) and consists of 44 items that are distributed among the five personality dimensions. Examples of items: I consider myself as someone who: *is talkative* (Extraversion), *is forgiving* (Agreeableness), *has a vivid imagination* (Openness to Experience), *worries a lot* (Neuroticism), *tends to be disorganized* (Conscientiousness, reversed). The items are responded to on a 5-step Likert scale ranging from *Is absolutely not true* (1) to *Is absolutely true* (5).

Social Dominance Orientation

To measure the social dominance orientation that a person displays, the present thesis employed a Swedish translation of the construct's operational measure, the Social Dominance Orientation Scale. The scale was originally constructed by Pratto et al. (1994) and consists of 16 items. Some item examples: *Some groups of people are just inferior to others* (approving suggests high social dominance), *We would have fewer problems if we treated all groups equally* (approving suggests low social dominance).

Right-Wing Authoritarianism

The operational measure of the construct right-wing authoritarianism is the Right Wing Authoritarianism Scale originally constructed by Altemeyer (1981). The present thesis employed a Swedish version of the scale (15 items) that has recently been adapted to a Swedish context by Zakrisson (in press). Some examples: *Our country needs a powerful leader to overthrow the radical and immoral values that are present in today's society* (approving suggests high right-wing authoritarianism), *It is better to accept bad literature than to censor it* (approving suggests low right-wing authoritarianism).

Social Psychological Variables

Group Membership

Group membership is assumed to be a social psychological variable. This variable is simply assessed by asking participants to indicate their group membership. Within the present thesis, two group membership variables are included, gender and ethnic membership. The assignment of ethnic membership was based on the official Swedish classification where immigrant origin was defined as those born outside Sweden or those with one or both parents born outside Sweden.

Gender Identification

Within the social psychological literature group identification is assessed by various self-report scales (e.g., Wilson & Liu, 2003). For this reason, to assess participants' gender identification, a scale consisting of 7 items was constructed. Like previous research, participants responding to the scale are asked to indicate (on 10 cm long lines) whether they feel closer to *women* (left side) or *men* (right side) as regards to seven different domains (*attitudes, priorities in daily life, relations, life experience, choice of occupation, interests, hobbies, and gender identity*, as presented in the questionnaire). Each participant's response to each item was assigned a score (0-10) and averaged across items where a higher average indicates more closeness to *Men*.

Ethnic Identification

To assess participants' ethnic group identification the same 7 items from the gender identification scale are used. However, in this task participants were asked to indicate whether they felt closer to Immigrants (left side) or Swedes (right side) as regards to the seven different domains. Each participant's response to each item was assigned a score (0-10) and averaged across items where a higher average indicates more closeness to Swedes.

Measuring Explicit Prejudice

General Issues

Explicit prejudice and attitudes toward various social groups are traditionally measured by self-report instruments, where respondents are asked about their attitudes toward an outgroup. Recent research distinguishes between modern (or subtle) and classical (or old-fashioned) scales, where the former measures the more covert and the latter the more overt types of attitudes/prejudice. The modern scales are, for example, argued to meet social changes in the expression of prejudice as well as social desirability effects. The distinction between modern and classical expressions have been tested in many studies and shown to be valid (e.g., Akrami et al., 2000; Ekehammar et al., 2000; McConahay, 1986; Pettigrew & Meertens, 1995). The research in the present thesis employed scales covering four types of prejudice. These scales, developed for a Swedish (and Scandinavian) context, have been shown to have good reliability and validity in several studies. A short description of the scales is presented below.

Ethnic Prejudice – Prejudice toward Immigrants

Ethnic prejudice refers to negative attitudes toward people based on their ethnic membership. In the present thesis, the term is used to reflect prejudice toward immigrants in Sweden and is measured by the Modern Racial Prejudice Scale (Akrami et al., 2000). The use of the term *racial* was made at the time of constructing the scale to avoid confusion and to ease comparison with other research within the area where the term racial was used, and is still used, on a regular basis. However, to reflect modern biological research where the term *race* is empirically questioned (e.g., Smedley & Smedley, 2005) the term *ethnic* will be used in the following.

Thus, the *Modern Racial Prejudice Scale* was constructed for measuring modern (covert, subtle, symbolic) racial/ethnic prejudice by Akrami et al. (2000) following the item content of McConahay's (1986) Modern Racism Scale and based on Sears' (1988) classification system. The scale contains 9 items (example: *Discrimination against immigrants is no longer a problem in Sweden*).

Sexism – Prejudice toward Women

The term sexism is defined to reflect prejudice and negative attitudes toward people based on their gender. In the present thesis, the term sexism is used to describe prejudice and/or negative attitudes toward women and is operationalized by the *Modern Sexism Scale*. The Swedish *Modern Sexism Scale* was constructed by Ekehammar et al. (2000) to measure attitudes toward women. The scale is based on Sears' (1988) classification system (see also Swim, Aikin, Hall & Hunter, 1995). The scale comprises 8 items (example: *Discrimination of women is no longer a problem in Sweden*).

Prejudice toward Intellectually Disabled Individuals

Prejudice and/or negative attitudes toward intellectually disabled people are measured by the *Modern Attitudes toward Intellectually Disabled Individuals Scale*. The scale is developed by Akrami, Ekehammar, Sonnander, and Claesson (2004) to measure attitudes and prejudice toward mentally disabled persons taking into account the distinction between classical (blatant, “old-fashioned”) and modern prejudice as above. The scale includes 11 items (example: *Mentally disabled persons are getting too demanding in their push for equal rights*).

Homophobia – Prejudice toward Homosexuals

The term homophobia is often used to refer to prejudice and negative attitudes toward homosexual people. This is also applied in the present thesis where homophobia is measured by the Attitude to Homosexuality Scale. The scale was constructed by Ekehammar and Akrami (2002) and contains 10 items (example: *Homosexuality should be abandoned*).

Measuring Implicit Prejudice

Priming is a procedure that stimulates or activates stored knowledge (Higgins, 1996). Stereotype activation involves priming of stereotype-related constructs (e.g., Devine, 1989), whereas category priming involves priming of category labels (e.g., Lepore & Brown, 1997; see also Fiske, 1998) or facial photographs (Fazio et al., 1995). Priming for eliciting implicit prejudice can be carried out using various techniques, such as priming without awareness (subliminal priming) or priming without attention. In priming without awareness, the target construct is activated without the participant's conscious awareness – the stimuli are exposed below the participant's detection threshold. In typical priming without attention tasks, the target construct is activated without the participant's attention to the construct. Participants in such experiments are often presented to a cover story in order not to disclose the main aim of the priming task (e.g., Bargh & Chartrand, 2000; Fazio et al., 1995).

A frequently used method for assessing the impact of activated stereotypes (or other constructs) on judgments or evaluations is the stereotype application task (Brauer et al., 2000). In this procedure, participants are first primed with, for example, stereotypical or other trait words or photographs and they are then asked to read an ambiguous behavioral description, known as the Donald paragraph, and form an impression of Donald as part of an ostensibly unrelated experiment (e.g., Devine, 1989). The initial exposure and activation of the stereotypical or other trait words is assumed to activate relevant or applicable constructs that will subsequently affect the impression of Donald (e.g., Devine, 1989). Automatic activation of negative stereotypical traits concerning an outgroup, for example, is found to lead to an automatic (implicit) negative evaluation (i.e., prejudice) toward that group (e.g., Bargh & Chartrand, 2000).

Statistical Issues

ANOVA vs. Regression Analysis

Recent methodological findings suggest that dichotomizing continuous variables is rarely defensible and often yields misleading outcomes (e.g., MacCallum, Zhang, Preacher, & Rucker, 2002; see also Cohen, 1983). Despite this explicit warning, dichotomizing continuous variables is a frequently practiced procedure within contemporary psychological research. Accordingly, and to enhance the statistical power, the data analyses are based on (multiple) regression methods throughout the present thesis. However, especially with regard to Paper I, analyses based on ANOVA and dichotomized variables are also presented in the original paper to ease comparison with previous research (e.g., Devine 1989; Lepore & Brown, 1997).

Causal Modeling

The major part of the statistical analyses in Paper II and III included in the present thesis is based on causal modeling with latent variables. In both papers, the models are tested using LISREL 8.30 (Jöreskog & Sörbom, 1993) and the testing is based on the covariance matrix and employing maximum likelihood estimation. Within each measurement model, one manifest variable (the participants' scores on, for example, one Big Five factor) is assigned to one latent variable. As the reliability of the manifest variables affect the parameters in the model, the error variances of the manifest variables were fixed (Jöreskog & Sörbom, 1993). The error variance was calculated using the reliability estimate (Cronbach alpha) for the specific variable, that is one Big Five factor in this case (see Jöreskog & Sörbom, 1993, pp. 37-38). This procedure allows an analysis of the linear structural relations among the latent rather than the manifest variables. To simplify the models presented, the manifest variables are not depicted in any figure. Further, in all tested

models the Big Five factors were allowed to correlate as they were correlated in that specific sample.

All causal models proposed in the present thesis are allowed to compete with other alternative models and, thus, fit indexes are presented for the models. Model fit was evaluated by using χ^2 tests in the first place, but as sample size affects the χ^2 value, and in line with recent advice (Hu & Bentler, 1999; McDonald & Ho, 2002), multiple indices were used to evaluate the fit of the models. Specifically, the Standardized Root Mean Square Residual (SRMR ≤ 0.08 indicating good fit), and the Root Mean Square Error of Approximation (RMSEA ≤ 0.06 indicating good fit) were computed. Further, to simplify comparison between models with different degrees of freedom, the χ^2/df ratio was computed (≤ 2 indicating good fit; see Shumacker & Lomax, 1996).

Every model was first tested with the hypothesized paths in the first step. Nonsignificant paths in the first step were removed and the model was run a second step, and if there were any nonsignificant path(s) in the second step the model was run in a third step after removing the nonsignificant path(s). Fit indices for the final steps are presented in the present thesis, whereas fit indices for all steps are presented in the original papers.

Empirical studies

Paper I

Study 1

Background

The present study is aimed to investigate whether people with various degrees of explicit prejudice a) possess the same knowledge about stereotypes associated with the social category *immigrants*, and b) associate different national or ethnic categories with the social category *immigrants*. The examination of these issues is of importance for the forthcoming studies in order to show that the results of the priming in those studies are not due to differences in stereotype knowledge and category association. A further aim is to examine the content of the category and stereotype information and to provide prime stimuli for the forthcoming category and stereotype priming study.

Method

Participants. The respondents were 92 men and 138 women, in the age range of 18 to 59 years ($M = 23.1$ years). None of the participants had an immigrant origin.

Procedure. Participants responded to a questionnaire consisting of the scale measuring explicit ethnic prejudice (Akrami et al., 2000; $\alpha = .82$ in this study), embedded among filler items, and to two open-ended tasks. The first task contained the following instruction: "List at least five common stereotypes of immigrants in Sweden. Note that we are *not* interested in your own personal beliefs, but the stereotypes common in the society." The second task contained the following instruction: "List the group(s) you think of when mentioning immigrants." After completing the task, participants were debriefed, thanked, and dismissed.

Results and Comments

Stereotypes of immigrants. Participants' responses were content analyzed and were found to form 17 categories (Table 1), which were coded by two independent coders. The Kappa (κ) coefficient (which corrects for chance agreement) revealed a high inter-judge reliability of .97. To analyze the rela-

tion between participants' stereotype knowledge and their ethnic prejudice scores for each of the 17 stereotype categories a variable was constructed, where mentioning a category was scored as 1 and not mentioning scored as 0. Correlations (point-biserial) were then computed between participants' ethnic prejudice scores and the 17 variables representing the categories (Table 1). The results revealed only one significant (negative) correlation. Thus, the lower the participant's ethnic prejudice the more frequently the category *criminal* was mentioned.

These results, with one exception, indicate a lack of relation between people's stereotype knowledge and level of prejudice and are in line with previous research examining this issue (e.g., Devine, 1989). Despite cultural differences between Sweden, England, United States, and Australia, the stereotypes are very similar as to content and negativity. Interestingly, people in these countries tend to mention corresponding cultural stereotypes – lazy, criminal, inferior, dirty, and uneducated – when probed for their knowledge of the cultural stereotypes of prejudiced ethnic groups (Augustinos et al., 1994, Study 1 – Aboriginal; Devine, 1989, Study 1 – African Americans; Lepore & Brown, 1997, Study 1 – West Indians).

Table 1. *Proportion of Participants Mentioning Each Stereotype Category and Correlations (r) between Participants' Ethnic Prejudice Scores and Stereotype Knowledge (Mentioning a Category = 1, Not Mentioning = 0)*

Rank	Category	Proportion	r
1	Living at public expense	.69	-.08
2	Criminal	.63	-.15*
3	Conflicting interests ^a	.40	.01
4	Sexist	.38	-.04
5	Aggressive/Violent	.37	.05
6	Miscellaneous negative	.32	.08
7	Dirty	.31	-.04
8	Dishonest	.26	.05
9	Lazy	.25	-.08
10	Culture	.23	.00
11	Non-integrated	.23	-.07
12	Low intelligence	.19	-.08
13	Miscellaneous neutral	.14	.10
14	Uneducated	.10	-.06
15	Miscellaneous positive	.07	-.00
16	Inferior	.03	.06
17	Physical description	.02	.01

* $p < .05$, $N = 230$.

^abetween Swedes and immigrants

Ethnic and national groups associated with immigrants. Participants' responses were content analyzed and were shown to form 20 distinct national/ethnic groups (Table 2). As above, a variable was constructed for each of the 20 national categories to analyze the relation between participants' ethnic prejudice scores and the ethnic and national groups they associated with immigrants. Those mentioning a national category were assigned a score of 1 and those not mentioning the category were assigned a score of 0. Correlations (point-biserial) between participants' ethnic prejudice scores and the 20 variables representing the national categories were computed (Table 2). No significant correlations were found. This indicates a lack of relation between people's level of explicit prejudice and the ethnic and national categories they associate with the social category *immigrants*. Interestingly, there is a mismatch between the actual proportions of immigrant groups living in Sweden and the proportions given in Table 2 (cf. Statistics Sweden, 1996).

Study 2

Background

Drawing on the implicit-explicit prejudice distinction, Devine (1989) suggested that people high and low on explicit prejudice might not differ in their automatic stereotype activation. Because of the common socialization processes and frequent activation of stereotypes in the past make both groups more likely to have the same stereotype activation level. People high and low on explicit prejudice activate their accessible and culturally shared stereotypes on the mere presence of a stereotyped group member.

Devine (1989, Study 2) asked her participants to form an impression of an ambiguous person (called Donald) after being subliminally primed with words that were stereotypical (e.g., *lazy*, *poor*) with respect to African Americans. As predicted, she found that participants rated the target in accord with the activated stereotypes regardless of their scores on explicit racial prejudice. Thus, Devine found implicit and explicit prejudice to be dissociated.

Whereas some other studies have supported this outcome (e.g., Ekehammar et al., 2003; Brauer et al., 2000) some others have not (e.g., Lepore & Brown, 1997; Wittenbrink et al., 1997). Of relevance to the present study, Lepore and Brown (1997) distinguished between stereotype and category activation and found that when primed with category words (e.g., *Black*), people high in explicit prejudice showed automatic stereotype activation to a greater extent than people low in explicit prejudice. However, when primed with stereotypical (e.g., *lazy*) rather than category words, both groups showed the same levels of stereotype activation, thus, replicating Devine's (1989) findings.

Table 2. *Proportion of Participants Mentioning Each National Category and Correlations (r) between Participants' Ethnic Prejudice Scores and Category Knowledge (Mentioning a Category = 1, Not Mentioning = 0)*

Rank	Category	Proportion	r
1	Iranians	.72	-.03
2	Turks	.60	-.02
3	Yugoslavs	.47	-.04
4	Iraqis	.44	.07
5	Finns	.44	-.06
6	Africans	.43	-.07
7	Arabs, Arab countries	.38	-.04
8	Greeks	.26	-.06
9	Chileans	.25	-.03
10	Eastern Europeans	.24	-.08
11	Asians	.23	.00
12	Kurds	.22	-.04
13	Bosnians	.17	.04
14	Somali	.16	-.08
15	South Americans	.15	-.11
16	Scandinavians	.13	-.04
17	Mediterranean	.11	-.08
18	Western Europeans	.10	-.10
19	All non-Swedes	.07	-.05
20	North Americans	.07	.00

Note. None of the correlations is significant at $p < .05$, $N = 230$.

Central to Lepore and Brown's theorizing is the contention that for low-prejudice people the linkage between the category and negative attributes might be weaker as compared to that of high-prejudice people. Also, other research (e.g., Dijksterhuis, Aarts, Bargh, & van Knippenberg, 2000; Fazio, 1993, 2001; Fazio, Sanbonmatsu, Powell, & Kardes, 1986; Gawronski, Ehrenberg, Banse, Zukova, & Klauer, 2003) provides empirical support for the importance of associative strength in the stereotype activation domain. However, some other research suggests that associative strength may not moderate priming effects or stereotype activation (e.g., Bargh, Bond, Lombardi, & Tota, 1986; Bargh et al., 1996; Bargh, Chaiken, Govender, & Pratto, 1992; Moskowitz et al., 1999; Rudman & Borgida, 1995), that is, category activation is more likely to enhance the accessibility of relevant stereotypes independent of associative strength. Yet, some recent research has found evidence for implicit automatic evaluation of *novel* prime stimuli with no specific associative strength involved (Duckworth, Bargh, Garcia, & Chaiken, 2002). Moreover, Smith and DeCoster (1998) have shown that few new encounters with the knowledge structure may dramatically increase the accessibility of a 'decayed' construct (i.e., with low or zero accessibility) that is equivalent or higher as compared to the level it had before its decay.

The research reviewed above implies that the question of the role of associative strength on stereotype activation remains open and one could hypothesize that stereotype activation is *not* moderated by associative strength as well as that it is. In fact, social categorization and category activation are general processes that, after all, are supposed to facilitate social information processing and ease interactions in the social world – regardless of people’s prejudice level. The idea that social categories are tightly connected with their stereotypes for both high- and low-prejudice people is highly important from a social information processing view and theories of social automaticity.

Further, and of methodological importance, a closer look at the priming stimuli in the studies of Devine (1989) and Lepore and Brown (1997) disclose no clear differentiation between category and stereotype words (see Paper I, Appendix). Thus, several of the stereotype primes used by Devine could be classified as category words (e.g., *Afro*, *Blacks*, *Negroes*, *Nigger*) and a majority (7 out of 13) of the stereotype words used by Lepore and Brown were actually category words (e.g., *Afro-Caribbean*, *Blacks*, *West Indians*, *Dreadlocks*). The present study tries to avoid this methodological bias and, in line with Fiske (1998), suggests that for category priming the “critical test pre-consciously activates merely the ethnic category; that is, the label (e.g., ‘blacks,’ ‘West Indians’) is primed alone – without the additional stereotypic primes present in the original Devine study” (p. 365). Therefore, unlike previous studies, the present study attempts to clearly distinguish the character of the primes in the category and stereotype conditions. The logic is that stereotype priming occurs when stereotypical words (e.g., *lazy*, *criminal*) are directly primed without their associated category label (e.g., *immigrants*, *Blacks*).

Another methodological aspect is that Lepore and Brown (1997, and Devine, 1989) dichotomized the explicit prejudice scores – a continuous variable – which is a rarely defensible method that often yields misleading outcomes (e.g., Cohen, 1983; MacCallum et al., 2002). Accordingly, and to enhance the statistical power of the present study, the explicit prejudice scores were treated as a continuous variable and the data analysis was based on multiple regression methods.

More important, Lepore and Brown (1997) examined category and stereotype priming in two different experiments, one employing category words (Study 2) and the other stereotype words (Study 3) – a design that prevents an appropriate examination of the differences between category and stereotype activation and the hypothesized interaction effect. Responding to this cardinal methodological issue, the present study employs category and stereotype priming (as well as random assignment) within the same experimental design.

In summary, the present study examines whether automatic activation of immigrant stereotypes as compared to immigrant categories influences peo-

ple's social judgements differently and whether this influence is the same for people with various degrees of explicit prejudice. It is hypothesized that participants, irrespective of their explicit prejudice, would not differ in their automatic stereotype activation and implicit prejudice when primed with category as compared to stereotype words. The theoretical view behind this hypothesis is that social categories are contaminated with their associated stereotypes.

Method

Participants. Participants were 44 women and 44 men (aged 18-36 years, $M = 23.2$ years), randomly assigned to one of three conditions: stereotype priming ($n = 35$), category priming ($n = 31$), and no-prime ($n = 22$). None of the participants had an immigrant origin. A quasi randomization was employed. Thus, the number of participants in the two experimental conditions was extended after randomization of the base set with 22 participants in each of the three conditions.

Apparatus. The experiment was conducted using an Everex PC with 19" monitor display, run at a resolution of 1152×864 with an 85 Hz screen refresh rate.

Stimulus materials. The priming stimuli for the category and stereotype priming conditions consisted of the ethnic/national categories and stereotypes associated with these categories obtained from Study 1 (see Ekehammar et al., 2003).

Procedure. In order not to arise suspicion about the main aim of the experiment, participants were made to believe that they were participating in three unrelated experiments – a “localization speed experiment” (the priming part), an “impression formation experiment” (the impression formation part), and a social opinion questionnaire (the assessment of explicit prejudice). In the *priming part*, each participant was subliminally (80 ms) exposed to four presentations of each prime word. The prime word was presented randomly in one of four different parafoveal (2 to 6° of the visual field) positions on the screen. The prime was replaced by a letter string (xqfbzrpmqwhgbx) mask, also exposed for 80 ms. The inter-trial interval varied randomly between 1 to 6 seconds. After each trial the participant was instructed to locate the position of the "double" flash, which consisted of the prime word and the letter string. Except for the exposure duration, the priming procedure was the same as Lepore and Brown's (1997).

In the *impression formation part*, participants were given a passage about a gender and ethnic neutral person named *PP*, they were instructed to read the passage and then rate the target person on twelve adjectives, six representing positive and six representing negative qualities. Ratings were made

on a 10-point scale ranging from 1 (*do not agree at all*) to 10 (*agree completely*). An overall negativity index (denoted *implicit prejudice index* in the following) was constructed by reversing the coding of the positive items and taking the mean of all items. The internal consistency reliability of the implicit prejudice index was found to be satisfactory (Cronbach $\alpha = .78$ in this study).

In the *assessment of explicit prejudice* part, participants were guided to another room and asked to complete a computerized booklet containing the ethnic prejudice scale ($\alpha = .76$ in this study).

Results and Comments

A multiple regression analysis using the implicit prejudice index as dependent variable and the contrast-coded Prime condition (step 1), the continuous (non-dichotomized) scores of the Explicit prejudice (step 2), and the Prime \times Explicit prejudice interaction (step 3; the product of Prime condition and Explicit prejudice) entered stepwise as independent variables. The analysis revealed a significant effect of prime condition, $R = .31$, $F(2, 85) = 4.35$, $p = .02$. However, the effect of explicit prejudice, $R = .00$, $F(1, 86) = 0.004$, $p = .95$, and the Prime \times Explicit prejudice interaction, $R = .04$, $F(2, 85) = 1.11$, $p = .33$, were not significant. The contrast-coded variables revealed that the stereotype ($M = 5.88$, $SD = 1.19$) and category ($M = 5.72$, $SD = 1.23$) conditions were not significantly different as to implicit prejudice, $t(85) = 0.54$, $p = .59$, whereas the mean implicit prejudice for these conditions was significantly different from that of the no-prime ($M = 4.92$, $SD = 1.33$) condition, $t(85) = 2.86$, $p = .005$.

The significant main effect of prime showed that category and stereotype activation resulted in higher negative ratings of the target person (= higher implicit prejudice) as compared with the control condition. Moreover, the results showed that category and stereotype priming yielded the same degree of implicit prejudice, which speaks against the distinction between category and stereotype priming proposed by Lepore and Brown (1997). Further, also in line with the predictions, the results indicated that participants with various degrees of explicit prejudice displayed a similar level of implicit prejudice when primed with category as compared to stereotype words. These results are in support for the dissociation position, which maintains that that implicit and explicit prejudice are not related.

Study 3

Background

Although the primes employed in the category activation condition in Study 2 were neutral in valence, they evoked negativity and implicit prejudice in people high as well as low in explicit prejudice. This finding speaks against

the associative strength hypothesis, which argues that the associative strength between a social category and its related stereotypes is different for people high and low in explicit prejudice. Social categories seem to be contaminated by their associated stereotypes, which – for the social category immigrants – are mostly negative (see Table 1). Categorization as well as category and stereotype activation in daily social interaction, however, is not evoked by priming words. Rather, the process is triggered by the relevant overt features of the social targets. It is, therefore, of importance to examine the external validity of the results employing more ecologically relevant primes, that is, stimuli more like those in daily-life situations, such as facial photographs. Priming facial photographs also provides distinctive and clear-cut category activation and makes possible differential activation in participants with varying degrees of explicit prejudice – a further examination of the associative strength hypothesis.

If social categories are contaminated with their stereotypes and if associative strength is not cardinal for stereotype activation, as the theoretical argument suggests, then, a) category priming using immigrant facial photographs would result in higher implicit prejudice as compared with category priming using Swedish facial photographs, which implies a main effect of prime, and b) people with various degrees of explicit prejudice would not differ in their implicit prejudice as a function of category priming, which implies that there would be no interaction between prime and explicit prejudice.

Method

Participants. Participants were 31 women and 31 men (aged 19-51 years, $M = 23.5$ years), randomly assigned to one of two conditions: Immigrant primes ($n = 29$) and Swedish primes ($n = 33$). None of the participants had an immigrant origin.

Apparatus. The equipment was identical to that in Study 2.

Stimulus materials. Forty facial photographs (face-shots), 20 immigrant and 20 Swedish, were selected in a pilot study (see Ekehammar et al., 2003). There were also two types of masks – the first, a pattern mask, was composed of a dark beige background with short, brown lines – the second, a “dot mask”, was dark beige with colored (blue, brown, or red) circles (“dots”). The number of dots varied between six and twelve. To ensure activation of the aimed categories, the word *immigrant* was added to the photographs representing immigrant and *Swede* to the photographs representing Swedish faces. The words were added onto the lower part of the prime photographs.

Procedure. The participant was told to take part in three unrelated experiments, a “perceptual counting speed experiment” (the priming part) and an “impression formation experiment” (the impression formation part). The third part consisted of a computerized questionnaire containing the ethnic prejudice scale.

In the *priming part*, each participant was exposed to 40 presentations - where each prime appeared twice, with a randomized interval of 1-6 s in between. In each presentation, the prime was exposed for 13 ms, in one of four parafoveal positions (2 to 6° of the visual field). The prime was replaced by the pattern mask for 13 ms, which in turn was replaced by the dot mask – remaining on the screen for 2 s. After each presentation, the participant was asked to indicate whether an odd or an even number of dots was presented.

The *impression formation part* of the experiment was similar to that in Study 2, with some modifications of the behavioral description to balance the positive and negative elements of the main character in the paragraph. As in Study 2, an overall implicit prejudice index was constructed by reversing the coding of the positive items and taking the mean of all items (Cronbach $\alpha = .77$ in this study).

After the impression-formation task, participants were asked to complete a computerized questionnaire containing the scale measuring explicit ethnic prejudice ($\alpha = .76$ in this study).

Results and Comments

A multiple regression analysis was carried out using the implicit prejudice index as dependent variable and the dummy-coded Prime condition (step 1), the continuous (non-dichotomized) Explicit prejudice (step 2), and the Prime \times Explicit prejudice interaction (step 3; the product of the prime condition and Explicit prejudice) were entered stepwise as independent variables. The analysis revealed a significant effect of Prime condition, $R = .32$, $F(1, 60) = 7.00$, $p < .01$, where participants in the Immigrant prime ($M = 5.52$, $SD = 1.04$) condition showed higher negativity or implicit prejudice toward the target person as compared with those in the Swedish prime condition ($M = 4.74$, $SD = 1.23$). The main effect of Explicit prejudice, $R = .05$, $F(1, 60) = 2.39$, $p = .13$, and the Prime \times Explicit prejudice interaction, $R = .03$, $F(1, 60) = 1.27$, $p = .26$, were, however, not significant.

Participants rated the target person more negatively (showed more implicit prejudice) in the immigrant prime condition as compared with the Swedish prime condition. The results are in line with those of Study 2 (see also Ekehammar et al., 2003) and indicate that stereotypes (mostly negative, see Study 1) are intimately connected with the social categories they are associated with and lead to negative evaluations when activated. The *non-significant* interaction effect indicates that people with various degrees of explicit prejudice did not differ in their degree of implicit prejudice in the

immigrant category condition. The results are contrary to those of Lepore and Brown (1997) and support the idea that there are no differences in associative strength between categories and stereotypes for people with various degree of explicit prejudice

Paper II

Study 4

Background

Previous research within the personality approach has studied the relation of either Big Five personality with prejudice, Big Five personality with social dominance orientation (SDO) and right-wing authoritarianism (RWA), or SDO and RWA with prejudice. The present study is designed to respond to this lack of integration by examining the relation between the personality variables and prejudice within the same study. Specifically, the present study aims to examine the causal relation between the Big Five personality, RWA, SDO and prejudice. In addition, and important to the personality approach to prejudice, the present study attempts to examine the relation between various types of prejudice. In line with previous research (Ekehammar & Akrami, 2003), various types of prejudice (ethnic prejudice, sexism, prejudice toward homosexual people, and prejudice toward mentally disabled people) are expected to be highly correlated, consisting of one single factor, generalized prejudice.

As regard to the causal examination, a theoretical model is proposed and examined (Figure 1). The causal order suggested within this model is that the Big Five factors first affect SDO and RWA as intermediate or transmitting variables, which in turn affect Generalized Prejudice. More specifically, based on the previous findings reviewed in the introduction, a causal relationship of the personality factors Conscientiousness, Extraversion, and Openness to Experience with RWA, and Openness to Experience and Agreeableness with SDO is suggested. Further, causal relationships of SDO and RWA with Generalized Prejudice are included. In addition, to examine possible direct effects of personality on prejudice, causal paths from the personality factors Agreeableness and Openness to Experience to Generalized Prejudice are included. Finally, with no specific theoretical basis for the causal direction at hand, the relation between RWA and SDO is examined on exploratory basis.

The hypothetical model is allowed to compete with two models with different causal orders. Within the first alternative model, the causal order of RWA and SDO on the one hand and Generalized Prejudice on the other is reversed. This is made to respond to recent research where the causal order of SDO and prejudice is questioned (e.g., Guimond et al., 2003; Schmitt et

al., 2003). The second alternative model is constructed by putting RWA and SDO first in the causal chain, followed by Big Five personality and, finally, Generalized Prejudice. Although this model is not very realistic, it could be the next best alternative to the hypothetical model. It is important to note that in the two alternative models, the relations between Big Five personality and the other variables remain as in the main hypothetical model. Detailed specifications of the competing models are presented in Paper II.

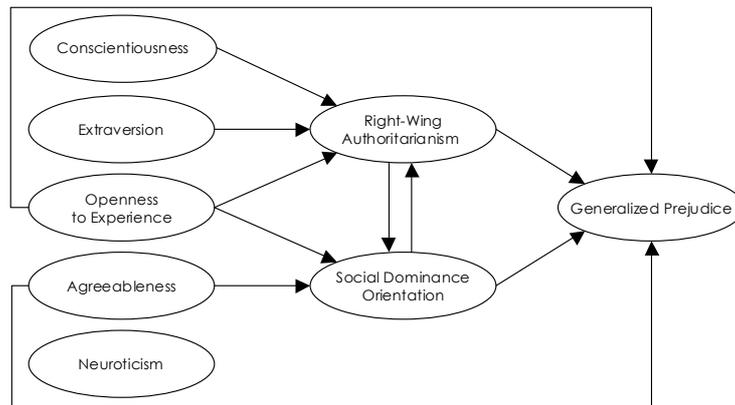


Figure 1. A hypothetical model of the causal relation between Big Five personality, right-wing authoritarianism, social dominance orientation, and generalized prejudice.

Method

Participants. Participants were 183 nonpsychology university students at Uppsala University, 97 women and 86 men.

Measures. The following measures were included in the present study: the Big Five Inventory, the Social Dominance Orientation (SDO) Scale, the Right Wing Authoritarianism (RWA) Scale, the Modern Racial Prejudice Scale, the Modern Sexism Scale, the Modern Attitudes toward Intellectually Disabled Individuals Scales, the Attitude to Homosexuals Scale. Responses on the Big Five Inventory items were indicated on a 5-step scale ranging from *Is absolutely not true* (1) to *Is absolutely true* (5). Responses on the RWA, SDO, and all the prejudice scales were indicated on a 5-step scale ranging from *Do not agree at all* (1) to *Agree fully* (5).

Results and Comments

Analyses of prejudice scores. Participants' scores on the four prejudice scales were analyzed by computing pair-wise correlation coefficients (r) and Cronbach alpha coefficients. The alpha reliabilities varied between 0.80 and 0.91 and can be regarded satisfactory. Further, the magnitude of the scale

intercorrelations were moderate to high, and statistically significant ($p < 0.01$). The largest correlation coefficient ($r = 0.59$) was obtained for the relation between Ethnic prejudice and Sexism, and the smallest ($r = 0.24$) for the relation between Prejudice toward Homosexuals and Mentally Disabled People.

Factors analyses. Bases on the correlations among the prejudice scales, a principal components factor analysis was conducted. There was only one factor with an eigenvalue greater than unity (2.28), explaining 57% of the total variance, and a scree plot indicated one factor as well. Following Allport's (1954: see also Ekehammar & Akrami, 2003; McFarland, 2001) terminology, this factor was denoted Generalized Prejudice. Standardized factor scores ($M = 0$, $SD = 1$) for the Generalized Prejudice factor were calculated for each participant with higher scores indicating higher generalized prejudice. These scores were then used in the main analyses below.

Basic Statistics. Cronbach Alpha coefficients for SDO, RWA, and the Big Five factors were computed. The alpha reliabilities varied between 0.69 and 0.87 and, except for Agreeableness (0.69), can be regarded satisfactory.

The correlations of the Big Five personality dimensions with SDO, RWA, and Generalized Prejudice were also examined. A low but significant negative correlation was found between SDO and Agreeableness ($r = -0.25$, $p < 0.001$) whereas the correlations between SDO and the other Big Five dimensions were all nonsignificant. Further, low but statistically significant correlations were found between RWA and four of the Big Five dimensions. Thus, RWA was positively correlated with Conscientiousness ($r = 0.25$, $p < 0.001$) and Extraversion ($r = 0.15$, $p < 0.05$), and negatively correlated with Openness to Experience ($r = -0.28$, $p < 0.001$), and Neuroticism ($r = -0.18$, $p < 0.05$). Generalized Prejudice was found to be correlated with Agreeableness ($r = -0.20$, $p < 0.01$), Openness to Experience ($r = -0.16$, $p < 0.05$), and Neuroticism ($r = -0.14$, $p < 0.05$). Strong correlations were also found between Generalized Prejudice and SDO ($r = 0.65$, $p < 0.001$), and RWA ($r = 0.58$, $p < 0.001$), respectively. These strong correlations are in line with previous research and confirm that SDO and RWA are potent predictors of various forms of prejudice (Pratto et al. 1994; Sidanius & Pratto, 1999; Whitley, 1999). Finally, a strong correlation was obtained between SDO and RWA ($r = 0.52$, $p < 0.001$).

Causal Modeling. The proposed hypothetical (Figure 1) and alternative models were tested following the procedure described in the Methodology section. Table 3 shows fit indices for the last step of the three suggested models, and indicate that the hypothetical model showed a much better fit to the data as compared to the two alternative models. The path diagram for the hypothetical model is presented in Figure 2. As can be seen in Figure 2, the

paths from Openness and Agreeableness to Generalized Prejudice were non-significant. Also the path from Openness to Experience to SDO and that from SDO to RWA were not significant (compare with Figure 1).

Table 3. Model Specifications and Fit Indices for Causal Models Examining Big Five Personality, RWA, SDO, and Prejudice

Model and Relations	Model Fit Index					
	χ^2	<i>df</i>	<i>p</i>	χ^2/df	SRMR	RMSEA
Theoretical model						
Big Five → RWA & SDO → Prejudice	8.02	8	.43	1.00	.027	.004
Alternative model I						
Big Five → Prejudice → RWA & SDO	43.87	8	.00	5.48	.057	.160
Alternative model II						
RWA & SDO → Big Five → Prejudice	19.99	6	.00	3.33	.058	.113

Note. RMSEA = Root Mean Square Error of Approximation, SRMR = Standardized Root Mean-Square Residual, RWA = Right-Wing Authoritarianism, SDO = Social Dominance Orientation.

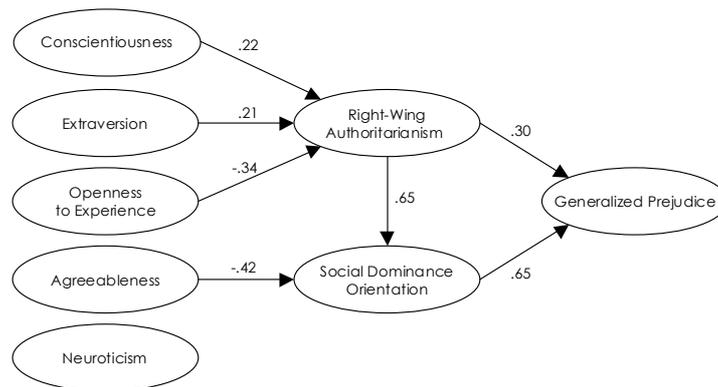


Figure 2. Causal model of personality and prejudice going from the Big Five personality factors through social dominance orientation and right-wing authoritarianism to generalized prejudice. All path (partial regression) coefficients are statistically significant at $p < .05$ at least.

In addition to the examination of the hypothetical and the alternative models, the final model was examined for each prejudice type – replacing Generalized Prejudice with Ethnic prejudice, Sexism, Prejudice toward Homosexuals, and Prejudice toward Intellectually Disabled People, respectively. The results showed a very good fit between model and data and all paths were significant in the models using Ethnic prejudice [$\chi^2(8) = 8.51, p$

= 0.39, SRMR = .028, RMSEA = .019] and Prejudice toward Homosexuals [$\chi^2(8) = 9.12, p = 0.33, SRMR = .033, RMSEA = .028$] as the outcome variables. There was a good fit also for the models employing Sexism [$\chi^2(9) = 10.02, p = 0.35, SRMR = .029, RMSEA = .025$] and Prejudice toward Intellectually Disabled People [$\chi^2(9) = 8.00, p = 0.53, SRMR = .028, RMSEA = .000$] as the outcome variables. However, the paths from RWA to Sexism and from RWA to Prejudice toward Disabled People were found nonsignificant within these models.

Further, direct, indirect, and total effects of the Big Five factors, SDO, and RWA on Generalized Prejudice were calculated (Table 4). As shown in the table, RWA displayed the largest total effect on prejudice through a direct path and a substantial indirect path via SDO. The direct (and total) effect of SDO was thus somewhat smaller than the total effect of RWA. None of the Big Five factors showed a direct effect on prejudice, and the largest indirect effects were disclosed for Openness (through RWA) and Agreeableness (through SDO). The magnitude of the effects of the Big Five personality factors was markedly smaller than that of RWA and SDO.

The results of the present study showed that different types of prejudice are highly correlated and form one single factor. In line with previous research these findings strengthen the personality approach to explain prejudice, especially as this factor shows reasonably high correlations with basic personality factors, RWA, and SDO. The conclusions of the causal modeling and the superiority of the hypothetical model show the importance of RWA and SDO in explaining prejudice and in transmitting the effects of basic personality. The support for the hypothetical model could, also, be seen as a contra argument to the research questioning the basic role and causal order of RWA and SDO. However, the present study also functions as an exploratory one – toward a basic model where different approaches to prejudice could be integrated.

Table 4. *Direct, Indirect, and Total Effects of Big Five Personality Factors, SDO, and RWA on Generalized Prejudice*

Scale	Effects on Generalized Prejudice		
	Direct	Indirect	Total
<i>Right-Wing Authoritarianism</i>	.30	.42	.72
<i>Social Dominance Orientation</i>	.65	.00	.65
Big Five Factors			
Neuroticism	–	–	–
Extraversion	–	.16	.16
Openness to Experience	.00	-.28	-.28
Agreeableness	.00	-.27	-.27
Conscientiousness	–	.17	.17

Note. – = Effect not examined.

Paper III

Study 5

Background

In addition to the personality constructs from Study 4, the present study was designed to examine the role of social psychological variables (group membership) in explaining prejudice. By integrating the personality and the social psychology approaches within the same causal model, the present study made possible the assessment of each approach's explanatory power as to prejudice. The study was also designed to respond to some researchers rejecting the importance of the one or the other approach in explaining prejudice.

The main idea here is to include group membership in the final hypothetical model from Study 4. The basic assumption is that Gender (or sex), a classical group membership variable, affects Big-Five personality that in turn affects RWA and SDO, which in turn affect Sexism. Further, to account for gender differences in these variables a path from Gender to RWA and SDO is included. Moreover, to account for the social psychological explanation of sexism, a path from Gender to Sexism was included. This would represent what can be called the *integrated personality and social psychology* model (see Hypothetical model, Figure 3). This model is allowed to compete with the *social psychology* model, where the paths from RWA and SDO to Sexism are set to 0, and with the *personality* model, where the path from Gender to Sexism is set to 0. Thus, the paths from RWA and SDO transmit the personality effect, and the path from Gender transmits the social psychological effect on sexism. Although gender differences in personality and SDO are well documented (e.g., Costa, Terracciano, & McCrae, 2001; Sidanius & Pratto, 1999), critical readers could see the paths from Gender to the Big Five personality factors, RWA and SDO as exploratory.

Method

Participants. Participants were 379 nonpsychology university students at Uppsala University, 194 women and 185 men.

Measures. The following measures were included: the Big Five Inventory (BFI), the Social Dominance Orientation (SDO) Scale, the Right Wing Authoritarianism (RWA) Scale, the Modern Sexism Scale. Responses to the BFI items were indicated on a 5-step scale ranging from *Is absolutely not true* (1) to *Is absolutely true* (5). Responses to the RWA, SDO, and all the prejudice scales were indicated on a 5-step scale ranging from *Do not agree at all* (1) to *Agree fully* (5).

Results and Comments

Basic Statistics. Scale reliabilities for the scales included in this study varied between .71 and .87 and could be regarded as satisfactory. As to the relation between the variables, the analyses revealed a significant correlation of RWA with Conscientiousness ($r = .19, p < .001$), Agreeableness ($r = .10, p = .05$), and Openness to Experience ($r = -0.24, p < .001$). The correlations of RWA with Conscientiousness and Openness to Experience are in line with those in Study 4. The significant correlation between RWA and Agreeableness, however, is unexpected and could be a result of differences in sample characteristics. Further, in line with the findings in Study 4, there was a significant negative correlation between SDO and Agreeableness ($r = -.26, p < .001$). Moreover, the analyses revealed a relatively high and significant relation between SDO and RWA ($r = .39, p < .001$) and of Sexism with SDO ($r = .52, p < .001$), RWA ($r = .35, p < .001$), and Gender (woman = 0, man = 1; $r = .43, p < .001$). Sexism was also found to be correlated with Neuroticism, Openness to Experience, and Agreeableness. Taking differences in sample characteristics and sample size into account, these correlations are in line with those in Study 4.

Causal Modeling. First, the proposed model representing the integrated personality and social psychology approach was tested (Figure 3). After removing nonsignificant paths from the first step the model was run in a second step, which constitutes the final integrated personality and social psychology model. This model was then modified to function as the personality model, where the path from Gender to Sexism was excluded, and the social psychology model, where the paths from RWA and SDO to Sexism were excluded.

Starting with the hypothetical model, which combines the personality and the social psychology approaches, the analyses showed a good fit between the data and the model [$\chi^2(15) = 12.6, p = .63, SRMR = .030, RMSEA = .000$]. The results indicated that the competing personality [$\chi^2(16) = 74.5, p = .00, SRMR = .056, RMSEA = .098$] and social psychology [$\chi^2(17) = 118.8, p = .00, SRMR = .090, RMSEA = .130$] models did not fit the data well. The final path models, together with the standardized path coefficients, are presented in Figure 3.

More important, the integrated personality and social psychology model showed a significantly better fit to the data than the personality, $\Delta\chi^2(1, N = 379) = 61.9, p < .000$, and the social psychology model alone, $\Delta\chi^2(2, N = 230) = 106.2, p < .000$. Also, the personality model showed a significantly better fit to the data as compared to the social psychology model, $\Delta\chi^2(1, N = 379) = 44.3, p < .000$.

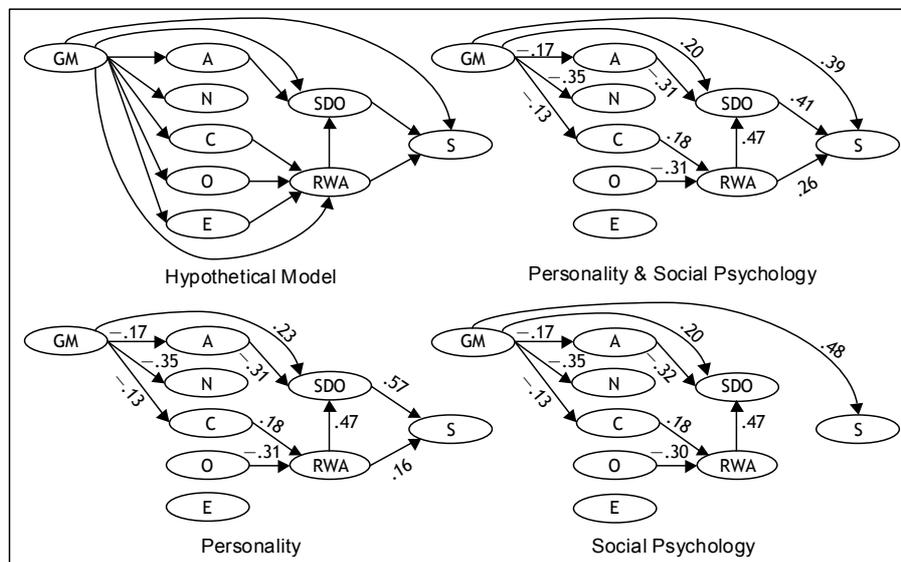


Figure 3. Causal models of personality [Big-Five factors; Agreeableness (A), Neuroticism (N), Conscientiousness (C), Openness (O), and Extra-version (E); Right-Wing Authoritarianism (RWA); and Social Dominance Orientation (SDO)] and/or social psychology [Gender Membership (GM)] constructs explaining prejudice [Sexism (S)] in Study 5 ($N = 379$). All paths (partial regression) coefficients are statistically significant at $p < .05$ at least.

Regression Analyses. In addition to the causal modeling presented above, multiple regression analyses was conducted to make a more straightforward head-to-head comparison between the personality and the social psychology approaches. Two regression models were examined. In the first, the personality variables (Big Five, SDO, and RWA) were entered into the regression equation first and the social psychology variable (gender membership, dummy coded) was entered in the second step. The order of steps was reversed in the second model.

The two regression analyses showed that the personality and the social psychology approaches together explained 42% of the total variance in sexism. In Model 1, where the personality variables were entered first, the personality approach explained 32% and the social psychology 10% of the variance. Model 2, where the social psychology variable was entered first, showed a somewhat different picture. Here, the social psychology approach explained 19% and the personality 23% of the variance. All coefficients (R^2) were significant at $p < .001$, at least.

The results of the causal modeling and the regression analyses point in the same direction and support the main assumption of the present study. That is, both the personality and the social psychology approaches are meaningful to explain prejudice, sexism in the present case. Thus, the causal model us-

ing personality as well as social psychological variables displayed a very good fit to the data, significantly better than the personality or social psychological models alone. Further, the regression analyses confirmed this picture by showing that personality as well as social psychological variables gave significant contributions to the explained variance in prejudice. The results also showed that the personality approach was somewhat more powerful than the social psychology approach. First, the personality model showed a significant better fit to the data than the social psychology model in the causal modeling. Second, in the regression analyses the personality approach contributed with more explained variance regardless of whether it was entered in the first or the second step of the regression models. However, and as a justification of the conclusions presented above, one could argue that the social psychological approach was not properly represented in the present study. The social psychological variable, gender membership (sex), was alone to compete with seven personality variables (Big Five, SDO, and RWA). Although this situation motivates the introduction of further social psychological variables in Study 6, the outcome, in fact, shows the power of “simple” group membership. Group membership matters and it explains a reasonable amount of variance.

Study 6

Background

The present study, in addition to examining the contribution of the personality and the social psychology approaches to prejudice, attempts to test the replicability and the generalizability of the models presented in Study 5. Thus, Study 5 is extended, first, by adding a further social psychological construct, group identification, in the causal model. Second, in addition to the examination of sexism or negative attitudes toward women, Study 6 examines ethnic prejudice. The logic behind the causal models is based on the results of Study 4 and Study 5.

With regard to the model dealing with sexism, like in Study 5, gender membership is placed before Big Five personality in the causal models. Gender identification is placed in a causal position so as to make a clear extension of the social psychological part of the model. Thus, gender identification is not attached to the personality variables to avoid personality influences and to clearly separate the personality from the social psychology effects (see Figure 4). The basic assumptions are that gender membership affects Big-Five personality factors, which in turn affect RWA and SDO, which in turn affect sexism. A path from gender membership to RWA and SDO is also included to account for gender differences in these variables. In addition, a path from gender identification to sexism is included to account for the social psychological explanation of sexism. This would represent the

integrated personality and social psychology model, which is the main hypothetical model (see Figure 4). This model is allowed to compete with the *social psychology* model, where the paths from RWA and SDO to sexism are set to 0, and with the *personality* model, where the path from gender identification to sexism is set to 0.

The logic above is applied to the model dealing with ethnic prejudice, ethnic membership, and ethnic identification (see Figure 5). The basic assumptions here is that ethnic membership affects Big-Five personality factors, which in turn affect RWA and SDO, which in turn affect ethnic prejudice. A path from ethnic membership to RWA and SDO is included to account for ethnic group differences in these variables. In addition, a path from ethnic membership to ethnic identification and from ethnic identification to ethnic prejudice is included to account for the social psychological explanation of ethnic prejudice. This would represent the *integrated personality and social psychology* model, the main hypothetical model (see Figure 5). This model is allowed to compete with the *social psychology* model, where the paths from RWA and SDO to ethnic prejudice are excluded, and with the *personality* model, where the path from ethnic identification to ethnic prejudice is excluded.

Method

Participants. Participants were 182 nonpsychology university students at Uppsala University, 98 women (31 of immigrant origin) and 84 men (38 of immigrant origin).

Measures. The following measures were included: the Big Five Inventory (BFI), the Social Dominance Orientation (SDO) Scale, the Right Wing Authoritarianism (RWA) Scale, the Modern Sexism Scale, the Modern Racial Prejudice, the Gender Identification scale, the Ethnic Identification scale.

Responses to the BFI items were indicated on a 5-step scale ranging from *Is absolutely not true* (1) to *Is absolutely true* (5). Responses on the RWA, SDO, and all the prejudice scales were indicated on a 5-step scale ranging from *Do not agree at all* (1) to *Agree fully* (5). Responses to the gender group identification scales were made on a 10-cm long line where the left side of each line was anchored Women and the right side anchored Men. For the ethnic group identification scales, the left side of each line was anchored Immigrants and the right side anchored Swedes. Participants were instructed to indicate by a tick on the line. The responses of each participant to each item were, using a ruler, assigned a score (0-10) which indicted closeness to Men or Swedes, respectively.

Results and Comments

Basic Statistics. Cronbach alpha reliability coefficients for the scales in the present study varied between .70 and .92, and could be regarded as satisfactory. As to the relation between the main variables in the study, correlations revealed a significant relation of RWA with Conscientiousness ($r = .15, p < .05$) and Openness to Experience ($r = -0.19, p < .01$). The correlations of RWA with Conscientiousness and Openness to Experience are in line with those in Study 5. The unexpected significant correlation between RWA and Agreeableness found in Study 5 was not obtained in the present sample. Further, in line with the results of Study 5, there was a significant negative correlation between SDO and Agreeableness ($r = -.31, p < .001$). Moreover, the analyses revealed a relatively high and significant relation between SDO and RWA ($r = .38, p < .001$) and of Sexism with SDO ($r = .54, p < .001$), RWA ($r = .33, p < .001$), Gender Membership ($r = .45, p < .001$; woman = 0, man = 1), and Gender Identification ($r = .38, p < .001$). The analyses also revealed significant relations of Ethnic prejudice with SDO ($r = .56, p < .001$), RWA ($r = .34, p < .001$), Sexism ($r = .58, p < .001$), and Ethnic Identification ($r = .22, p < .01$).

Somewhat unexpectedly, there was no significant relation between Ethnic Membership and Ethnic Prejudice ($r = .07$; Swedes = 1, immigrants = 0). This could, however, be a result of the definition made when assigning participants to the Swedish or the immigrant groups. Apart from the minor unexpected findings the correlations in the present study are in line with those of Study 4 and Study 5.

Causal Modeling. As mentioned above, there are two different prejudice types examined in the present study –sexism and ethnic prejudice. To assess the contribution of the personality and the social psychology approaches in accord with the main aim, three models for each prejudice type were proposed; the personality, the social psychology, and the integrated personality and social psychology model. The hypothetical model dealing with sexism is outlined in Figure 4, and that dealing with ethnic prejudice is presented in Figure 5.

The models were examined using the same procedure as in Study 5, both as regard to model modification, model-fit determination and comparison with other models. In the first step, the hypothetical models as they appear in Figure 4 and Figure 5 were tested. Nonsignificant paths in the first step were removed and the model was run a second step, and if there were any nonsignificant paths in the second step the model was run in a third step after removing the nonsignificant path(s). All models in the present study had, however, all paths significant already in the second step. The fit indices presented here are those for the final step.

Examining the hypothetical personality and social psychology model dealing with sexism the analyses showed that the model had a relatively good fit to the data [$\chi^2(24) = 41.41, p = .02, SRMR = .051, RMSEA = .063$]. The results indicated that the competing personality [$\chi^2(26) = 53.52, p = .00, SRMR = .065, RMSEA = .076$] and social psychology [$\chi^2(26) = 81.97, p = .00, SRMR = .094, RMSEA = .110$] models did not fit the data as well as the hypothetical model.

More important, the integrated personality and social psychology model showed a significantly better fit to the data than the personality, $\Delta\chi^2(2, N = 182) = 12.11, p < .01$, and the social psychology model alone, $\Delta\chi^2(2, N = 182) = 40.56, p < .000$. The personality model and the social psychology model had the same number of degrees of freedom and could not be compared by significance testing. However, the fit indices show the relative advantage of the personality model in explaining sexism. The final path models, together with standardized path coefficients, are presented in Figure 4.

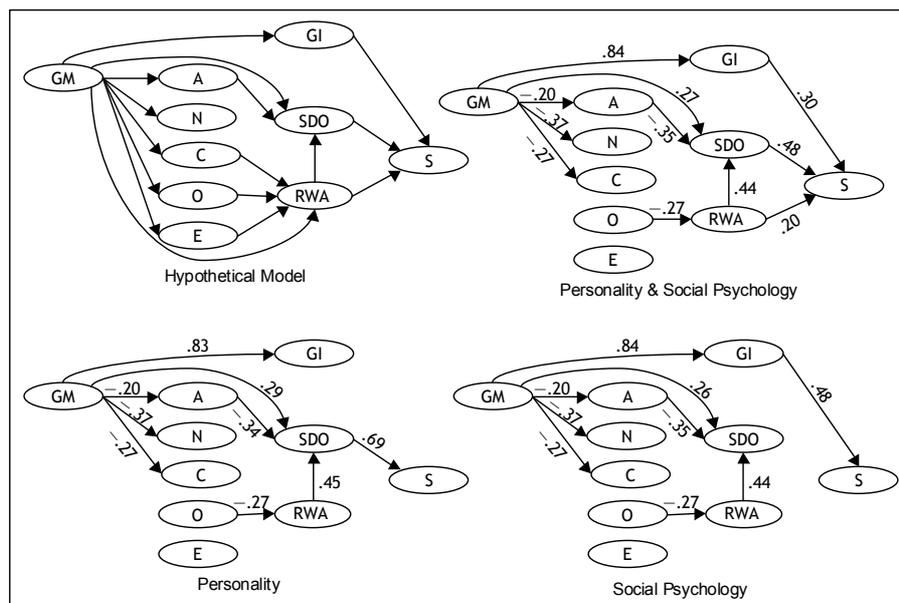


Figure 4. Causal models of personality [Big-Five factors; Agreeableness (A), Neuroticism (N), Conscientiousness (C), Openness (O), and Extraversion (E); Right-Wing Authoritarianism (RWA); and Social Dominance Orientation (SDO)] and/or social psychology [Gender Membership (GM), Gender Identification (GI)] constructs explaining prejudice [Sexism (S)] in Study 6 ($N = 182$). All paths (partial regression) coefficients are statistically significant at $p < .05$ at least.

As to the hypothetical personality and social psychology model dealing with ethnic prejudice the analyses showed that the model displayed a relatively good fit to the data [$\chi^2(26) = 29.83, p = .27, SRMR = .049, RMSEA = .029$].

The results indicated that the competing personality [$\chi^2(28) = 44.86, p = .02, SRMR = .060, RMSEA = .058$] and social psychology [$\chi^2(28) = 91.43, p = .00, SRMR = .011, RMSEA = .110$] models did not fit the data as well as the main model. Again, the integrated personality and social psychology model showed a significantly better fit to the data than the personality, $\Delta\chi^2(2, N = 182) = 15.03, p < .001$, and the social psychology model alone, $\Delta\chi^2(2, N = 182) = 61.60, p < .000$. The personality model and the social psychology models had the same number of degrees of freedom and could not be compared by significance testing. However, as in the case of sexism, the fit indices show the relative advantage of the personality model in explaining ethnic prejudice. The final path models, together with standardized path coefficients, are presented in Figure 5.

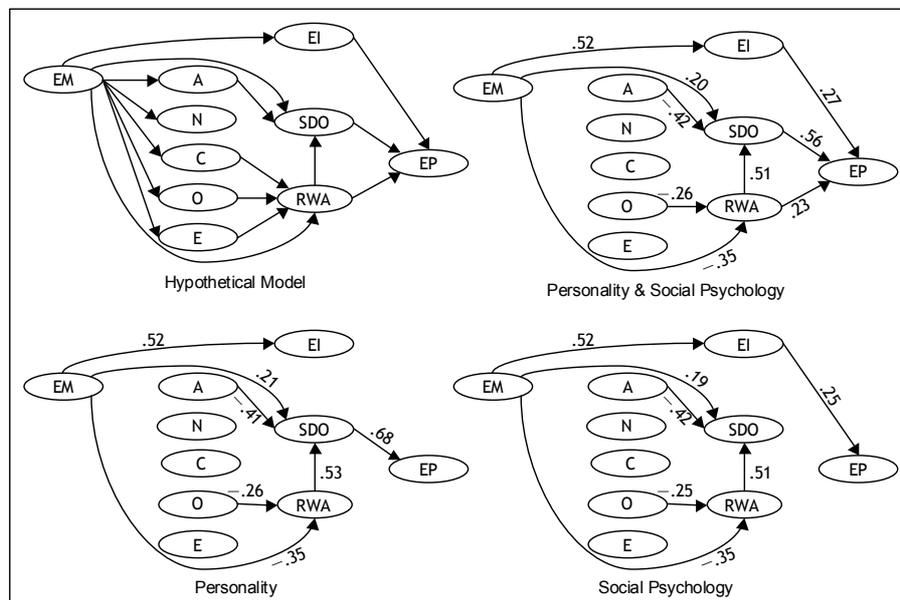


Figure 5. Causal models of personality [Big-Five factors; Agreeableness (A), Neuroticism (N), Conscientiousness (C), Openness (O), and Extraversion (E); Right-Wing Authoritarianism (RWA); and Social Dominance Orientation (SDO)] and/or social psychology [Ethnic Membership (EM), Ethnic Identification (EI)] constructs explaining Ethnic Prejudice (EP) in Study 6 ($N = 182$). All paths (partial regression) coefficients are statistically significant at $p < .05$ at least.

Regression Analyses. Parallel to the causal modeling, multiple regression analyses were conducted to make a more straightforward head-to-head comparison between the personality and the social psychology approaches. As in Study 5, two regression models were examined. In the first model the personality variables (Big Five, SDO, and RWA) were entered into the regres-

sion equation first, followed in step two by the social psychology variables [group membership (dummy coded), and group identification]. The order of steps was reversed in the second model.

Examining the contribution of the personality and the social psychology variables to explaining sexism, the analyses revealed that the approaches together explained 43% of the total variance in sexism. The variables representing the personality approach explained 34% of the variance when entered in the first step and 22% when entered in the second. The variables representing the social psychology approach, on the other hand, explained 21% of the variance when entered in the first step and 9% when entered in the second.

In explaining ethnic prejudice, the analyses revealed that the personality and the social psychology approaches together explained 41% of the total variance in ethnic prejudice. Regardless of the order in which they were entered into the regression equation, the personality approach explained 36% whereas the social psychology approach explained 5% of the variance in ethnic prejudice. All coefficients (R^2), regarding the both sexism and ethnic prejudice were significant at $p < .001$, at least.

The results of the present study, based on both the causal modeling and the regression analyses, are in line of those in Study 5 and support the main assumption that the personality as well as the social psychology approaches are meaningful to explain prejudice. The results are, also, somewhat in favor of the personality approach. Thus, the personality model showed significantly better fit to the data than the social psychology model both when dealing with sexism and ethnic prejudice. This is also supported by the regression analyses, where the personality approach contributed with more explained variance in both regression models.

General discussion

Major Findings – Relations to the Three Approaches

The Cognitive Approach

The results of Study 1 showed that people's knowledge of socially shared stereotypes (stereotype knowledge) was not related to their degree of ethnic prejudice. Further, the same study showed that there is no relation between people's level of explicit prejudice and the ethnic and national categories they associate with the social category *immigrants*. In other words, regardless of their explicit ethnic prejudice, people seem to have roughly the same stereotypes and the same ethnic and national categories in mind when it comes to immigrants. Moreover, the stereotypes appear to be negative.

Study 2, based on word primes, demonstrated that subliminally activated stereotypes affect people's judgments in the same evaluative direction. That is, primed (mostly negative) stereotypes were shown to lead to more negative (as compared with the control condition) judgements of the ambiguous target person presented after the priming task. More important, subliminal *category* activation yielded the same results as subliminal *stereotype* activation.

Employing more ecologically valid primes (facial photographs), Study 3 replicated and extended the generalizability of the main findings of Study 2, indicating that stereotypes are closely attached with the social categories they refer to regardless of people's level of explicit prejudice.

The findings speak against Lepore and Brown's (1997) distinction between category and stereotype activation and downplay the role of associative strength as a major moderator of stereotype activation (Fazio, 2001; Lepore & Brown, 1997). Further, the results of Study 2 and 3 suggest that there are no differences in implicit prejudice for people with varying degrees of explicit prejudice, supporting the idea of implicit prejudice as a result of automatic and inevitable cognitive processes (see Bargh, 1999).

The Personality Approach

The results of Study 4 showed that different types of prejudice are highly correlated and form one single factor, denoted generalized prejudice. Further, Study 4 demonstrated the importance of both basic personality and

personality-transmitting variables in explaining prejudice. Thus, the findings of Study 4, conceptually replicated in Study 5 and Study 6, revealed that (some) personality factors are correlated with different types of prejudice. Examining the causal relations among the constructs within the personality approach, Study 4 provided an initial framework for the integration of different approaches to explaining prejudice as well.

As mentioned earlier, previous research within the personality approach has studied the relation of either Big Five personality with prejudice, Big Five personality with social dominance orientation (SDO) and right-wing authoritarianism (RWA), or SDO and RWA with prejudice. Following the integrative theme in the present thesis, Study 4 (its results replicated in Study 5 and Study 6) extends past research by examining the personality variables within one model. Within this context, it should be mentioned that there is no conceptual correlation (the same or similar items) between the present personality and prejudice scales.

The Social Psychology Approach

Study 5, in addition to replicating the causal model from Study 4, showed the importance of the social psychological variable group membership (gender) in explaining prejudice (sexism). By including group identification as a further social psychological variable, Study 6 replicated the major findings of Study 5 and extended the demonstration of the explanatory power of social psychological variables. Moreover, Study 6 added generalizability to the findings of Study 5 by replicating support for the model through examining ethnic prejudice as well as sexism. The findings, in short, suggest that prejudice is best explained by the personality and social psychological constructs jointly. Thus, Study 5 and Study 6 emphasize the importance of personality as well as social psychological variables in explaining prejudice and stand in contrast to recent arguments that downplay the central role of personality explaining prejudice (e.g., Turner & Reynolds, 2003).

Issues Related to the Three Approaches

Implicit and Explicit Prejudice – Association or Dissociation?

As mentioned earlier, the relation between implicit and explicit prejudice has been subjected to intensive examinations. However, the final outcome of this line of research is not yet clear. Whereas one methodological approach has resulted in a clear relation (association) between implicit and explicit prejudice, other methodological approaches have failed to observe any relation (i.e., dissociation; see Brauer et al., 2000). Anyhow, implicit and explicit prejudice, like stereotype activation and implicit prejudice, have often been

seen as two sides of the same coin (see Brauer et al., 2000). The present thesis contributes to the understanding of this issue. Specifically, the results of Study 3 and Study 4 provide support for the dissociation hypothesis where no relation between implicit and explicit prejudice is expected. The contribution can also be seen as supportive of the idea of prejudice as a multidimensional construct, as suggested by Brauer et al. (2000). Thus, the dissociation indicates that implicit and explicit prejudice are not necessarily the two sides of the same coin. It might rather be the case that the implicit aspect taps the affective whereas the explicit taps the cognitive component (approach) of prejudice. A possible answer to this puzzlement might, interestingly, be found in an integrated model where both implicit and explicit prejudice and various approaches to assessing them are included.

Associative Strength and the Category-Stereotype Distinction

Categorization and category activation are fundamentals of social (and non-social) perception. Stereotypes, in addition are expectations about social categories. Imagine categories without related stereotypes as attached information – Japanese, Arabs, Africans, and Carpenters. These social categories would stand meaningless without additional information, which is almost entirely stereotypical in nature. To put it shortly, stereotypical information is part of the social information necessary for simplifying the complicated social world we live in. Thus, the findings presented in this thesis question the elasticity of the associative strength between social categories and their associated stereotypes, as suggested by Lepore and Brown (1997). Recent research has, in addition, found evidence for implicit automatic evaluation of novel prime stimuli with no specific associative strength involved (Duckworth et al., 2002). Stereotypic information is indeed activated rather easily and seemingly with a low degree of associative strength.

This, however, does not imply that associative strength is of no importance for information activation in general. Rather, it might be the case that the importance of associative strength varies with various types of categories and domains. Further, the developmental process of stereotypical information about minority groups is not entirely idiosyncratic. Stereotypes are maintained and the category-stereotype (negative and positive) link is strengthened by multiple channels of information. An adherent of the importance of associative strength might think; nice, low-prejudice people will strengthen the positive link(s). However, a non-adherent person would ask about whether there exist any positive stereotypes about minorities. A glance at the results presented in previous research (e.g., Devine, 1989; Lepore & Brown, 1997) as well as in Study 1 might give the answer. There are not many positive stereotypes of outgroups – and if they are found, one would see that they suffer from weakened positivity connotations, which previous research has documented (e.g., Allport, 1954; Hamilton & Sherman, 1994).

Personality and Self-Categorization Theory

It is important to note that self-categorization theory recognizes the role of personality as an explanatory factor of prejudice and intergroup conflict (e.g., Abrams & Hogg, 2004). This recognition is, however, conditional – personality matters only when the individual's personal identity (in contrast to social identity) is salient. This proposition has been examined in four studies: Verkuyten and Hagendoorn (1998), Reynolds et al. (2001), Heaven and St. Quintin (2003), and a non-published study described in Reynolds et al. (2001). The basic procedure in these studies has been to manipulate (prime) participants' mode of identification by making their personal or social identity salient (e.g., respond to the questionnaire as a unique individual or as an Australian, respectively). The major prediction derived from self-categorization theory is to expect weak, or no, correlations between personality variables (e.g., RWA) and prejudice measures (e.g., ethnic prejudice) when participants' national identity is salient (see Reynolds et al., 2001). When personal identity is salient, or in charge, the correlation between personality and prejudice is expected to be higher (as compared to national identity). In other words, manipulating participants' level of identification could simply mean that personality is simply switched on and off – a position recently criticized by Heaven and St. Quintin (2003).

The issue of manipulating participants' level of identification is of high importance for the conclusions drawn from the results of the present research. In this thesis, personal or social identity was not primed as in the studies referred to above. However, from a glance at the results of these studies one could conclude that there is simply no (consistent) support for the prediction that the relation between personality and prejudice would vary as a function of type of self-categorization. Specifically, Verkuyten and Hagendoorn (1998) examined the relation between RWA and prejudice against Turkish migrants as a function of self-categorization (personal vs. national identity) in a sample of Dutch students. They reported that the correlation between RWA and prejudice was significantly higher in the personal (.39) as compared with the national (.05) identity condition. In a replication attempt (Study 2), Verkuyten and Hagendoorn found a correlation of .30 in the personal and .13 in the national identity condition and no significant difference between the two correlations. Also, Reynolds et al. (2001) did not find the correlations of RWA with prejudice to differ between their national (-.01) and personal (.28) conditions to be significant. Finally, Heaven and St. Quintin (2003), despite the higher power in their study (as compared to those above), failed to find differences in the correlations of SDO with prejudice, and of RWA with prejudice, between the national and personal identity conditions (r s varying between .33 and .52). Thus, there is very little, if any, support for the contention that the relation between personality and prejudice is a function of self-categorization. This conclusion would suggest that per-

sonality is related to prejudice across situations, or identities, which in turn motivates non-experimental examinations of the relation between personality and prejudice, as in the present research.

Methodological Issues

Like most scientific studies, those within the present thesis have a number of limitations that are to be considered. For example, the results are based on a limited number of participants and further replications are needed to arrive at firmer conclusions. This caution is especially relevant when causal modeling with many variables is employed. In addition, the optimal way to assess causal relations is the employment of longitudinal studies, which was not the case in the present research. Further, although serious attempts were made to break the habit and avoid psychology students as participants, the majority of the participants was university students, which limits the generalizability (external validity) of the conclusions.

Moreover, as compared to previous research (Ekehammar & Akrami, 2003), there were differences in magnitude of the correlation coefficients that appeared between the Big Five personality factors and the other variables. In the present thesis, a Swedish translation of the Big Five Inventory (44 items; cf., John & Srivastava, 1999) was used to assess participants' personality characteristics. Although this inventory has been shown to have good validity and reliability characteristics it seems that a short scale is not sufficient to assess the Big Five at a broader factor level. This is as highly possible reason for the lower correlation coefficients obtained between the personality factors and other variables in the present thesis.

Another methodological issue is whether the explicit ethnic prejudice data collected after the experimental session in Study 2 and 3 were contaminated by the preceding subliminal priming and implicit measure. However, previous research (Ekehammar et al., 2003; see also Brauer et al., 2000; Lepore & Brown, 1997) has shown that implicit measurements have no effect on the explicit measures when they are collected in this order and, thus, this critique could be discarded.

Future Research – An Integrative Approach

The six studies in the present thesis have their theoretical roots in the personality, the social psychology, and the cognitive approaches reviewed in the Introduction section. Although it has been common standard in previous research it is, of course, not easy or not even possible to discuss the personality, the social psychology, and the cognitive approach to prejudice in isolation. The idea that personality factors, social psychological variables, and

cognitive processes affect the individuals' everyday social life and social interactions is basic within each approach. Therefore, one could conclude that there must be something to gain by integrating these approaches. This gain could be expressed in terms of statistical interactions (e.g., Personality \times Social psychology), and assessment of the specific contribution of each approach could increase our understanding of prejudice as a phenomenon. Responding to this situation, the studies presented in this thesis could function as a demonstration of each approach but can also be seen as a successive integration of the various approaches. Although this integration is not fully accomplished, Study 5 and Study 6 are steps forward in this direction. By integrating the personality and the social psychology approaches, Study 5 and Study 6 demonstrated the superiority of a combined personality and social psychology model as compared to the personality-only and the social-psychology-only models. To that end, the theoretical model proposed in Study 6 offers a promising ground and could function as a basic framework to integrate (the) various approaches.

An interesting question for future research, oriented toward integrating various approaches, is to include the cognitive approach in the theoretical model presented in Study 6. Specifically, it would be valuable to incorporate factors like knowledge of stereotypes, stereotype activation, and implicit prejudice. To achieve this, the recent theory and methodology presented by Greenwald, Banaji, Rudman, Farnham, Nosek, and Mellott (2002) and the use of the Implicit Association Test seem to offer promise. This would be a meaningful step toward a fully integrated model where the specific contribution of each approach as well as the statistical interaction between the various approaches is assessed. In addition, this would make possible a more solid conclusion about the relative importance of various components as antecedents of prejudice. To this end, the present thesis has identified some potential variables that could be included in an integrated theoretical framework. For example, stereotype knowledge, and stereotype activation are good candidates to represent the cognitive approach, group membership and group identification could represent the social psychological, and the Big Five personality, RWA, and SDO could represent the personality approach (see Figure 6). Such an integrated model would, hopefully, increase our understanding of prejudice as a phenomenon and help allocate our resources in combating its consequences.

Final Words

The findings of the present thesis accentuate prejudice as a complex phenomenon. The major line is that prejudice, or disliking others, is most probably the joint outcome of social, cognitive, and personality factors resting on individual differences. Thus, people, thinking ill, showing hatred, or the

more extreme act of killing each other, no matter in what part of the world, is a more complex and problematic phenomenon than we would like to believe. A pessimistic fact is that the present thesis could be seen as evidence of why prejudicial beliefs, despite legal provisions and many people's act of good will, continue to exist and cause harm in every corner of the world. On the other hand, and more optimistically, putting an end to the phenomenon might be easier by understanding the basic mechanisms behind it – the present thesis is hopefully a step in this direction.

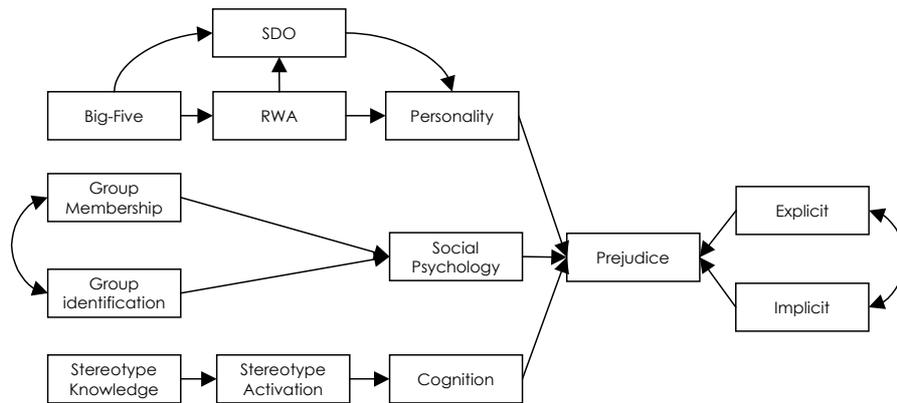


Figure 6. A general framework for an integrated approach to the study of prejudice.

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